MEDICAL PROCEEDINGS

MEDIESE BYDRAES

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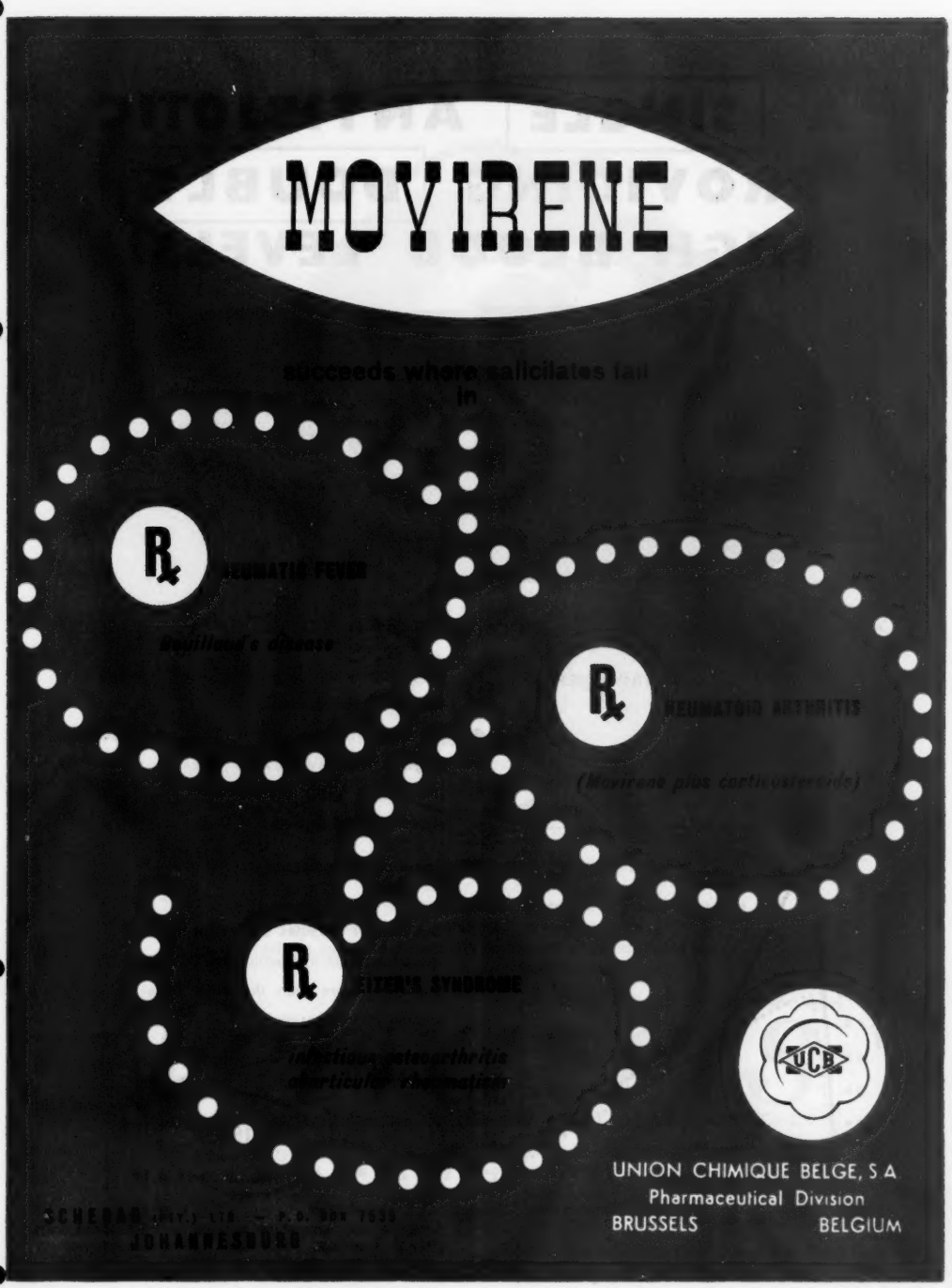
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Medical Proceedings · Mediese Bydraes

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REDAKSIONEEL · EDITORIAL

MEER MOEILIKHEID VIR DIE VIER-EN-TWINTIG-PERSENTERS

Die ingewikkelde, onbevredigende en onregverdige posisie wat in die Verenigde Koninkryk ontstaan het ten gevolge van die reeds lank verwagte en hoogs gewettigde aansprake van mediese praktisyns op verhoogde vergoeding word op 'n pittige en beknopte wyse uiteengesit op bladsy 262 van die uitgawe van *The New Statesman and Nation* vir 2 Maart 1957.

Onder die opskrif *Delay for the Doctors* verskyn daar die volgende:

„Die regering se erratiese behandeling van die dokters se aansprake op besoldiging is 'n verbasende voorbeeld van hoe openbare betrekkinge nie aangepak moet word nie. In die eerste plaas het die Minister van Gesondheid die eis van die hand gewys as onprakties „op die oomblik". Op 20 Februarie het lord Salisbury in die Britse Hoër huis aangekondig dat geen verhoging van hoegenaamd enige aard, selfs nie eens 'n tussentydse verhoging nie, toegestaan kan word behalwe aan die junior mediese en tandheelkundige personeel in hospitale. Teen hierdie agtergrond voel geneeshere tereg gebelgd oor die aankondiging wat die regering verlede week gedoen het, nl. dat hy 'n Koninklike Kommissie gaan benoem om ondersoek na die aanspraak in te stel, want die dokters beskou dit as politieke lafhartigheid en 'n poging om die saak uit te stel. Ten gevolge van hierdie agitasie het die Eerste Minister self tussenbei getree en die onderhandelingskomitee van die Britse Mediese Vereniging die versekering gegee dat „die

MORE TROUBLE FOR TWENTY-FOUR PERCENTERS

The complicated, unsatisfactory and unjust position that has now developed in the United Kingdom, as a result of the overdue and highly warranted claims by medical practitioners for increased remuneration, is set out succinctly in *The New Statesman and Nation* of 2 March 1957, at p. 262.

Under the heading *Delay for the Doctors*, the following statement appears:

'The government's erratic treatment of the doctors' pay claim is an astonishing study in how not to conduct public relations. In the first place, the Minister of Health turned the claim down out of hand as impractical "at present". On 20 February Lord Salisbury told the House of Lords that no increase of any kind, not even an interim one, could be granted save to junior medical and dental staff in hospitals. Against this background the government's announcement last week that it was to set up a Royal Commission to examine the claim was rightly resented by doctors as a piece of political cowardice and procrastination. Their outcry has inspired a hurried intervention by the Prime Minister himself to assure the B.M.A.'s negotiating committee that "the work of the Royal Commission would not preclude some interim adjustment". The government's position is now, therefore, more confused than ever. Does it reject the Spens formula which, as elaborated by the Danckwert's award, has been taken by doctors to mean that their incomes should be automatically adjusted to the cost of living? If so, it

werk van die Koninklike Kommissie nie die een of ander tussentydse aanpassing uitsluit nie". Die regering se huidige posisie is derhalwe moeiliker om te begryp as ooit tevore. Verwerp die regering die Spens-formule wat breedvoerig in die Danckwerts-toekenning uitgewerk is en deur geneeshere beskou word as 'n aanduiding dat hul inkomste outomaties by die koste van lewensonderhoud aangepas sal word? Indien wel, behoort die regering dit onomwonde te sê, en hy sal heelwat steun van die publiek kry as hy dit doen. Die pad sal dan oopgestel wees vir onderhandelings oor die verdienstelikheid van enige aanpassings in inkomste wat nodig mag word. Deur die saak na 'n Koninklike Kommissie te verwys, stel die regering bloot die dag uit wanneer hy 'n beslissing sal moet gee. Maar die dokters het dit aan hulself te danke. Deur aan te dring op die onbuigbare toepassing van die Spens-formule soos dit deur hulle vertolk word, eis hulle vir ewig en altyd 'n spesiaal bevoorregte posisie as die een professie wat volkome en outomaties teen inflasie beskerm is. Geen regering kan so 'n verpligting 'n onbepaalde tyd lank aanvaar nie, en die huidige regering is klaarblyklik geregtig om opnuut ondersoek na die saak in te stel. Waar hy 'n fout begaan, is in die metodes wat hy toepas. Die regering moes aangebied het om opnuut oor die formule met die professie te onderhandel en moes aangedring het op oorlegpleging op hierdie grondslag. As dit reeds in 1951 gedoen is, in plaas van die vertolking van die formule te verwys na regter Danckwerts as beoordelaar, sou die huidige dooie punt waarskynlik nooit ontstaan het nie. Die Britse Mediese Vereniging se beste kans om die uitstel te vermy wat onvermydelik deur die werk van 'n Koninklike Kommissie meegebring sal word, is nie om aan te dring op arbitrasie op die basis van die Spens-formule nie, maar om aan te bied om oor 'n nuwe benadering van die aangeleentheid te onderhandel.'

Ons vind dit moeilik om te besef waarom dokters nie hul ekonomiese posisie ‚vir ewig en altyd' kan beskerm nie. Dit kan skaars beskryf word as 'n strewe om 'n ‚spesiaal bevoorregte posisie' te verwerf, aangesien dit die normale manier is waarop alle burgers probeer om vir hulle en hul families te sorg.

Die mediese professie is 'n sleg georganiseerde groep. Hy pas nie allerhande vakbondplanne toe nie, en waar hy daarop aandring dat daar aan sy regmatige aansprake voldoen moet word, sal hy waarskynlik nooit sy toevlug tot hierdie soort metodes neem nie. As professie moet ons egter daarteen waak dat ons nie in 'n posisie beland waar die beloning vir die dienste wat ons aan die publiek bewys na 'n kwanselary op die markplein sal begin lyk nie. Ons kan georganiseerde groepe leke derhalwe nie toelaat om hulself in 'n monopsonie te konstitueer sodat hulle die voorwaardes waaronder ons praktiseer en ons brood verdien, kan voorskryf nie. Dit is ons onvervreembare reg om die meesters van ons eie lotgevalle te wees.

'n Aantal van die ernstige moeilikhede waarvoor die mediese professie in Suid-Afrika te staan gekom het ten gevolge van die geleidelike toename van kontrak-praktykwerk (sowel vir Mediese Hulp- as

should say so and it would have a good deal of public support in doing so. The way would then be clear for the negotiation on their merits of any adjustments in incomes which may be necessary. By referring the whole matter to a Royal Commission, the government is merely postponing the day when it will have to make up its own mind. But the doctors have themselves to thank. By insisting on the rigid application of the Spens formula as they interpret it, they are claiming in perpetuity a specially privileged position as the one profession which is completely and automatically guaranteed against inflation. No government can indefinitely accept such a commitment, and the present government is clearly entitled to re-examine it. What is wrong is its method. It should have offered to renegotiate the formula with the profession and called for consultations on this basis. If this had been done in 1951, instead of referring the interpretation of the formula to Mr. Justice Danckwerts as adjudicator, the present deadlock might not have arisen. The B.M.A.'s best hope of avoiding the procrastinations of a Royal Commission is not to demand arbitration on the basis of the Spens formula but to offer to negotiate a fresh approach.'

We have difficulty in appreciating why doctors should not protect their economic position as a profession 'in perpetuity'. This can hardly be described as seeking a 'specially privileged position', since it is the normal way in which all citizens strive to care for themselves and their families.

The medical profession is a poorly organized group. It does not adopt trade union tactics and will probably never choose to elect such methods of pressing for its just needs. As a profession, however, we should be on guard not to allow ourselves to be forced in a position whereby the reward for the services we render begins to smack of bazaar haggling. We cannot therefore permit organized groups of laymen to constitute themselves into a monopsony in order to dictate the conditions under which we practise and earn our living. It is our inalienable right to be the masters of our own fate.

Some of the grave difficulties which face medical practitioners in South Africa as a result of the steady growth of contract practice work (both for Medical Aid and Benefit Societies), and the inequitable conditions under

vir Onderstandsverenigings), en die onbillike toestande waaronder hierdie werk gedoen moet word, spruit voort uit presies dieselfde omstandighede as dié wat nou die bestaan van ons Britse kollegas bedreig, behalwe dat in ons geval ons eie omstandighede in groot en duidelik leesbare letters aangeteken staan. Die onbenydenswaardige lot wat mediese praktisyns in die Verenigde Koninkryk oorval het, behoort 'n waarskuwing vir ons in hierdie land te wees. Ons moet nie toelaat dat ons ontrief word van die plig om ons met ons eie sake te bemoei nie.

(*Kyk ook op bl. 217*)

which it must be done, arise from just the circumstances which imperil the livelihood of our British colleagues, except that it is a case of our own circumstances 'writ large'. The unenviable fate which has overtaken medical practitioners in the United Kingdom should be a stern warning to us here. We must not be deprived of the duty to mind our own business.

(*See also p. 217*)

STALAG DOCTOR

*Stalag Doctor** is 'n beskrywing van die persoonlike ondervindings van 'n Suid-Afrikaanse mediese praktisyn wat deur die Duitse strydkragte gevange geneem is tydens die algemene verwarring wat op die induiestorting van die Franse leërs vroeg in Wêreldoorlog II gevolg het.

Die skrywer (dr. I. Schrire) is goed bekend aan baie praktisyns in die Unie as 'n kliniese endokrinoloog wat vername bydraes op die gebied van eksperimentele fisiologie gelewer het in die jare vóór Wêreldoorlog II, toe hy lid van die personeel van die Departement van Fisiologie aan die Universiteit van Kaapstad was.

Hierdie merkwaardige beskrywing is van belang nie alleen weens die wedervaringe van die skrywer self nie, maar ook weens sy byna ongelooflike onthullings oor wat die Duitsers, insluitende Duitse dokters, met hul medemense gedoen het. Dr. Schrire vertel hoe hy alle denkbare, geoorloofde middele toegepas het om die ondraaglike lyding van die gevangenes te verlig.

Die professionele belangstelling van mediese praktisyns sal aangewakker word deur die skrywer se relaas van sy langdurige opsluiting. Hulle sal ook besef dat dr. Schrire die beproewinge, beledigings en ontberinge wat hy self moes verduur, op die agtergrond geskuif en veels te laag opgegee het. Hy is uiteindelik na Oflag 4C, 'n berugte strafkamp vir Britse offisiere, in Colditz gestuur. Dit was sy uitgesproke en dappere aandrang op die regte van krygsgevangenes en van nie-vegtende mediese personeel wat die Duitsers laat besluit het om hom na die Colditz-kamp te stuur, waar hy uiteindelik deur die Amerikaners bevry is.

Dr. Schrire se pragtig beteuelde en tog doeltreffende aanklag teen die euwels wat met oorlog gepaard gaan, het soveel belangstelling gewek dat die eerste Engelse uitgawe van sy boek reeds uitverkoop is. Dit is 'n roerende relaas van wat die menslike gestel kan verduur en is van spesiale belang vir mediese lesers.

* *Stalag Doctor.* Deur I. Schrire. (209 bl. 13s. 6d. 1956). Londen: Allan Wingate.

*Stalag Doctor** is a personal record by a South African medical practitioner who was captured by the German forces in the general confusion which attended the collapse of the French armies early on during World War II.

The author (Dr. I. Schrire) is well known to many practitioners in the Union as a clinical endocrinologist who made distinguished contributions in the field of experimental physiology in the years before World War II, while he was on the staff of the Department of Physiology of the University of Cape Town.

The interest of his remarkable record lies not only in what befell the author himself, but also in the almost incredible revelations of what Germans, including German doctors, could do to their fellow men. Dr. Schrire discloses how he used every conceivable, permissible stratagem to alleviate the unbearable lot of the prisoners.

Medical readers will find much to touch their professional interest in the author's account of his prolonged incarceration. They will also recognize in Dr. Schrire's writing an enormous understatement of his own trials, provocation and tribulation. He was eventually transported to Oflag 4C, a notorious punishment camp for British officers in Colditz. It was his outspoken and courageous insistence on the rights of prisoners of war and of non-combatant medical personnel which earned for him his transfer to the Colditz camp, from which he was eventually liberated by the Americans.

Dr. Schrire's restrained but effective indictment of the evils that go hand in hand with war, has stimulated such great interest that the first English printing has already been exhausted. This very moving account of what the human frame can endure is of special interest to medical readers.

* *Stalag Doctor.* By I. Schrire. (Pp. 209. 13s. 6d. 1956). London: Allan Wingate.

CREATINE EXCRETION IN MYASTHENIA GRAVIS

AFTER THYMECTOMY

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It has long been recognized that patients suffering from myasthenia gravis excrete abnormal amounts of creatine in the urine. Levene and Kristeller[1] (1909) first described this abnormality, and their findings have been repeatedly confirmed. However, creatinuria is not found in every case of myasthenia gravis, and the observation that creatinine excretion is lower than normal is not always correct.

Milhorat and Wolff[2] reviewed the subject of creatine metabolism in all the myopathies, and their comments on myasthenia gravis are generally accepted. Creatinuria is usually present, although in some cases it cannot be demonstrated. Females appear to excrete more creatine than males and, although there is no direct relationship between the grade of severity of the disease and the creatinuria, severe cases tend to excrete creatine in larger quantities. It is interesting to note, however, that the symptoms in exacerbations and remissions do not run *pari passu* with the degree of creatinuria. The creatinuria commonly seen before a fatal termination may be most marked; and in those cases with muscular wasting creatine is also excessively excreted. Milhorat and Wolff noted that prostigmine had no effect on creatine excretion. They concluded that in myasthenia gravis any disturbance in creatine metabolism is secondary to changes in the muscles affected.

Nevin[3] found the phospho-creatine content of muscle normal in myasthenia gravis, and suggested that the disease is not primarily associated with an abnormality of the intrinsic chemical mechanism of muscular contraction. Most observers agree that creatinuria in myasthenia gravis is not in itself a primary factor in the disease.

The relationship of the thymus gland to myasthenia gravis is still not clarified. The presence of a tumour in the gland, and the findings of what appear to be characteristic histological changes, led to the operation of thymectomy. Bratton[4], Collins[5] and others have demonstrated characteristic alterations in the histological structure of the thymus in myasthenia gravis, but there is no finality in an opinion based on a microscopic examination. Blalock[6] reported good results following thymectomy in myasthenia gravis, and Keynes,[7] in a big series of cases, claimed that after operation 65% were virtually cured, 25% were improved and 10% were unchanged.

Nothing was reported on the possible effects of thymectomy on creatine excretion. As most of the cases operated on by Keynes could be traced at the New End Hospital, it was decided to investigate their creatine excretion and that of an additional series of patients before and after thymectomy.

METHODS AND MATERIAL

Sixty-four patients were studied. Of these, 51 were investigated only after thymectomy, and 13 both before and after the operation.

Most of the former were not admitted to hospital for the collection of urine. Special bottles and instructions were despatched to these patients for collection of the 24-hour samples of urine. The urine was collected in each case for at least 10 successive days, and in some for longer periods.

The daily creatinine excretion was used as a check for the accuracy of the collections, and this showed a high degree of co-operation by all the patients.

Patients in hospital were under rigid supervision. Although these may have been studied for periods very much longer than 10 days, in some cases for weeks, it was considered that, for patients outside hospital, estimations for 10 successive days would afford a reasonable reflection of the creatine-creatinine economy.

Creatine and creatinine were estimated according to the method of Folin.[8] No special creatine-free diets were prescribed, as experience has shown[9] that unless gross alterations are made in the intake of protein foods, the normal diet does not significantly affect the results in experiments of this nature.

ASSESSMENT OF SYMPTOMS

All the patients in hospital were examined and questioned on several occasions. Many of the patients not in hospital were also personally examined, but for those who could not be seen, a special questionnaire was prepared, and this was completed by all. The following questions were asked:

1. Had the patient improved since the operation?
2. How many tablets* of prostigmine had been taken
   (*a*) Just before operation; and
   (*b*) At the time of this investigation?

3. What symptoms were they complaining of now (at the time of their investigation)?
(*a*) Ocular.
(*b*) Pharyngeal and facial.
(*c*) Weakness of the upper limbs.
(*d*) Weakness of the lower limbs.
(*e*) Weakness of the trunk.

* Each tablet contains 15 mg. prostigmine.

On the basis of the answers obtained from this questionnaire, it was possible to group the patients into 5 grades, according to the severity of the symptoms (Table 1).

TABLE 1: SCHEME FOR GRADING THE SYMPTOMS IN MYASTHENIA GRAVIS FOR COMPARISON IN PATIENTS BEFORE AND AFTER THYMECTOMY.

Symptoms	*Grade*
No disability	0
Normal activity, slight ocular weakness..	1
Ocular symptoms, involvement of pharynx and face	2
Ocular, facial, pharyngeal symptoms, and weakness of the upper limbs ..	3
Weakness (+++) of the lower limbs and the trunk muscles	4
Generalized weakness, barely ambulant	5

RESULTS

PATIENTS INVESTIGATED ONLY AFTER THYMECTOMY

Fifty-one patients were studied, of whom 34 were females and 17 males. Of the total number, 18 did not excrete creatine in the urine. Accordingly, it was possible to divide the patients into 2 groups on the basis of the presence or absence of creatinuria.

Group 1: No Creatinuria: None of the patients in this group complained of any symptoms of myasthenia gravis. They were all in good health and had been so since 4-6 months after thymectomy.

Fourteen of the 18 patients had ceased taking prostigmine within 6 months of operation. Four patients still took prostigmine, but they never exceeded 4 tablets a day. They took the drug as a form of insurance against possible attacks of weakness, although they had no symptoms.

The prostigmine intake before operation varied from 8-50 tablets in 24 hours, with an average of 16 tablets. Some of the patients had been gravely ill before their operation, although, at investigation, the majority were classified in grades 2 and 3.

The ages of the patients in this group varied from 22 to 71 years, although the majority (10) were over 30 years of age; the youngest patient was 22. There were 7 males and 11 females in the group. The average number of years since operation was 5½, and varied from 2-14 years.

The histology of the thymus glands showed that 4 had the characteristic changes of myasthenia gravis; 8 had suggestive changes; one was a lympho-epithelioma; 2 were thymomata; and 3 were classed as doubtful.

Group 2: Creatinuria Present: There were 33 patients in this group, of whom 23 were females and 10 males. Every one complained of symptoms of myasthenia. Assessment showed that 7 were grade 2; 17 were grade 3; 6 were grade 4; and 3 were grade 5. Nevertheless, 30 patients in this group admitted to improvement since thymectomy. The 3 patients in grade 5 had been included in grade 3 before operation. They had thus deteriorated.

The *duration* of the disease varied from 1-19 years for 32 of the patients. (One had suffered from the disease for 35 years). The average duration was 10½ years. The number of years since the operation, for 30 of the patients, varied from 1-9 years, with an average of 5 years. The other 3 patients had been operated upon 2, 5 and 6 months before investigation.

The *prostigmine intake* before operation varied from 6-32 tablets in 24 hours, with an average of 18 per patient. At the time of the investigation the average intake of prostigmine per patient was 10 tablets in 24 hours.

The *ages* of the patients varied from 21-56 years, with an average of 38.

The *histology* of the thymus glands showed that 18 were characteristic of myasthenia gravis; 9 were suggestive; 2 were doubtful; in one there was no evidence of the disease, and 3 were not available for study.

The *amount of creatine excreted* varied, but in almost all the patients creatinuria was present every day. Of the 33 patients in this group, 26 excreted creatine every day during the 10 days of investigation; 4 excreted creatine for 9 days; 2 for 8 days, and one for 7 days.

The maximum average daily excretion of creatine was 0.24 g. The minimum daily average was 0.05 g.

Eight patients excreted an average of more than 0.2 g. per day.
Twelve patients excreted between 0.15-0.2 g. per day.
Ten patients excreted between 0.1-0.15 g. per day.
Thirteen patients excreted between 0.1-0.05 g. per day.

Creatinine excretion varied from 0.68 g.-1.9 g. per 24 hours. This was within normal limits for age and weight.

CREATINE EXCRETION BEFORE AND AFTER THYMECTOMY

Thirteen patients were investigated, and 11 survived the operation. Table 2 shows the results obtained in this group. Seven of the patients were followed up at an interval of 3 months after the operation. Six were followed up for a second time 6 months after the first investigation. All the patients continued to take prostigmine, and none was able to discontinue the tablets without ill effects. One patient (H. R.) had reduced prostigmine intake from 18 to 4 tablets in 24 hours. She complained of no symptoms on this dosage, but was reluctant to stop the drug completely. Her average daily creatine excretion before operation had been 0.165 g. Three months later she did not excrete creatine, and 6 months after thymectomy she was still creatine-free in the urine.

TABLE 2: THE EFFECTS OF THYMECTOMY ON CREATINE EXCRETION, SYMPTOMS AND PROSTIGMINE INTAKE, IN PATIENTS BEFORE AND AFTER OPERATION

Patient	*Age (Years)*	*Sex*	*Duration of Disease (Years)*	*Symptoms before Operation (Grade)*	*Creatine before Operation (Daily Average in g.)*	*Thymectomy*	*Creatine after Operation (Daily average in g.)*	*First Follow-up 3 months (Creatine: Daily Average in g.)*	*Second Follow-up 6 months (Creatine: Daily Average in g.)*	*Symptoms 6 Months after Operation (Grade)*	*Prostigmine Intake (Tablets* per 24 Hours)*		*Histology of Thymus Gland*
											Before Operation	*At 6 Months Follow-up*	
D.S.	48	F	6	4	0·19	2 June 1955	0·09	0·09	0·06	4	20	24	Characteristic
A.I.	54	F	15	3	0·24	28 July 1955	0·20	0·13	0·31	4	11	27	Suggestive
H.R.	36	F	1	4	0·17	21 July 1955	0·06	—	—	—	18	4	Tumour Characteristic
E.N.	12	F	1¼	3	0·05	21 August 1955	0·09	0·08	0·09	2	20	12	Characteristic
R.W.	12	F	½	2	0·09	5 July 1955	0·04	0·02	0·04	1	22	8	Characteristic
J.S.	19	F	1	2	0·09	22 September 1955	0·06	0·04	—	3	10	8	Characteristic
H.P.	19	F	1	3	—	10 November 1955	—	0·04	—	3	15	17	Characteristic
F.B.	49	F	4	4	0·22	29 September 1955	0·08	—	—	3	12	18	Suggestive
R.B.	45	M	½	3	0·20	6 March 1956	0·20	—	—	3	15	18	Thymoma
H.K.	24	F	1	5	0·22	3 May 1956	0·24	—	—	4	25	24	Characteristic
N.I.	22	F	1½	2	0·1	10 May 1956	0·09	—	—	2	10	10	Suggestive
J.D.	7	F	¾	3	0·09	14 July 1955	Died	16/7/55	—	—	18	—	Suggestive
B.G.	50	F	4	4	0·05	26 May 1955	Died	28/5/55	—	—	20	—	Lympho-epithelioma

* Each tablet contains 15 mg. of prostigmine.

J. S. had excreted creatine in small quantities before the operation, but not every day. Five months later she had no creatinuria, although she was still complaining of symptoms and was still taking prostigmine.

H. P. had not excreted creatine either before or after thymectomy. She still, however, complained of symptoms 3 months after operation, and continued to take prostigmine.

The histology of the thymus glands was available in almost every case. There was no correlation between the histological findings and the symptoms, the creatinuria and the need for prostigmine intake.

DISCUSSION

Remission of symptoms in myasthenia gravis is one of the characteristics of the disease. Natural fluctuations may occur quite apart from therapy, and it is this which makes the assessment of any form of treatment so difficult. After thymectomy, in successful cases, the need for taking prostigmine gradually fades, and there comes a time when the patient is symptom-free and stops the prostigmine. Some of these so-called cures are not, however, maintained, and a considerable number of patients again begin to complain of symptoms and have to take prostigmine as before. Patients who are symptom-free, but still take prostigmine, cannot be considered as cured.

Although every patient with myasthenia gravis does not excrete creatine daily, almost all do excrete abnormal amounts from time to time. The severe cases may excrete large quantities. If a claim for complete cure is to be made, it is reasonable to expect that not only should the patient have become symptom-free and stopped taking prostigmine, but he should also no longer excrete creatine in the urine in significant amounts. In the male patient who has recovered from the disease, the excretion of creatine should be nil or negligible. In the female, one expects to find occasional amounts of creatine in the urine, but the pattern of excretion is different from that of the active case.

Of the total number of patients investigated only after thymectomy, 14 could fulfil the suggested conditions for a complete cure. These 14 no longer complained of symptoms, they had all ceased taking prostigmine and, during the period studied, did not excrete creatine in the urine. As remissions are known to last for years, there is still no evidence that the patients in this group may not relapse again. Nevertheless, at the time of this investigation they should be classified as completely cured, as they differ in no may from normal persons.

In the group of patients regularly excreting creatine, 3 were symptom-free and did not take prostigmine. They did, however, periodically excrete creatine in abnormal amounts. They had been claimed as complete cures; yet at a later date they all developed the symptoms of myasthenia, and had to resort to prostigmine. Of the rest of the patients in this group, all active cases of myasthenia gravis, there were several who had also been claimed as cured, but had subsequently relapsed. It would appear that in assessing the effects of thymectomy the presence of an abnormal creatinuria in the patient who does not comcomplain of symptoms, and who does not take prostigmine, may indicate that cure is not complete.

Since it was not possible to study the patients thymectomized before this investigation began, it can be questioned if the conclusions drawn are valid. As myasthenia gravis is associated, usually, with a persistent and abnormal creatinuria, it is not unreasonable to suggest that the cases before thymectomy had excreted creatine in the urine in abnormal quantities.

The results in the patients investigated both before and after thymectomy show that, within the limit of 6 months, the operation has not produced any outstanding results. Six patients were followed up at 3-month intervals on 2 occasions, and little change had as yet taken place. No conclusions can be drawn either about the clinical improvement or the creatinuria. It is possible that at least a 2-year follow-up may be necessary before the results can be assessed. In the 14 cases who had fulfilled the conditions suggested for a complete cure, there was at least a 2-year interval between thymectomy and this investigation. It is hoped to follow up these cases at suitable intervals.

The histology of the thymus glands was studied in almost every case. The classification adopted in this communication was suggested by Dr. Bratton, as this obviated a lengthy description of each histological slide. There was no correlation between the histological findings and the symptoms, creatinuria, prostigmine intake or remissions.

SUMMARY

The creatine excretion in 64 patients suffering from myasthenia gravis has been investigated.

Of these, 51 were studied only after thymectomy. Thirteen patients were studied both before and immediately after operation; and 6 of these were followed up at intervals of 3 and 6 months.

It is suggested that in addition to complete alleviation of symptoms and discontinuation of prostigmine, there should be no creatine detectable in the urine if claims are made for a complete cure in this disease.

It is also suggested that creatine excretion may be of value in assessing the possibility of recurrences in patients who are in a state of clinical remission.

OPSOMMING

Die kreatienafskeiding by 64 pasiënte wat aan myasthenia gravis gely het, is ondersoek. Van hulle is 51 bestudeer slegs ná thymektomie. Dertien van die pasiënte is bestudeer sowel vóór as onmiddellik ná die operasie; en ses van hulle is by tussenpose van 3 en 6 maande weer ondersoek.

Daar word aan die hand gedoen dat, afgesien van die algehele verdwyning van simptome en die staking van prostigmien, daar geen kreatien in die urine bespeurbaar moet wees nie voordat daar aanspraak gemaak kan word op die algehele genesing van die siekte.

Daar word ook aan die hand gedoen dat kreatienafskeiding van waarde kan wees by die vasstelling van die moontlikheid van 'n nuwe inval by pasiënte wat in 'n toestand van kliniese remissie verkeer.

Part of this investigation was done during the tenure of a personal grant from the Medical Research Council.

I am indebted to Sir Geoffrey Keynes and to Mr. J. Piercy for permission to investigate their patients. It is a pleasure to thank Dr. Raymond Greene and the Staff of the Endocrinology Department of the New End Hospital for their co-operation. To Dr. A. B. Bratton my thanks are due for the histological reports on most of the patients.

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POLIOMYELITIS

VIEWS ON PROPHYLAXIS AND THE EPIDEMIC OF 1956

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This paper evaluates the Salk vaccine and also discusses a small series of children tested for poliomyelitis antibodies.

Until a live, oral poliomyelitis vaccine is developed, it becomes daily more obvious that the increasing demand for the Salk vaccine is outstripping the supply.

In 1955 a Salk-like vaccine produced in South Africa became available. As many parents were afraid to use it, some children over 3 years old were tested for poliomyelitis antibodies against the 3 recognized types of virus. The tests were done at the Poliomyelitis Research Foundation and the author's series, although small, revealed a few interesting findings.

All these children were White and from good, average income homes. Even the youngest age group showed a fair amount of immunity against each of the 3 types. In the age group of 3-5 4 in 13 (31%) of the children were immune to type 1, while in the 7-10 group with 13 children, 8 (62%) were immune to type 1. Table 1 also shows that many children who have reached the age of 3 have already been exposed to one or more types of poliomyelitis virus; yet only 2 in the whole series actually give a history of having had clinical poliomyelitis.

Any means, therefore, which can increase the

TABLE 1

Age Groups	*Number of Cases*	*Poliomyelitis Antibodies Present Against Type*		
		1	2	3
3 to 5	13	4	4	9
5+ to 7	13	7	5	7
7+ to 10	13	8	7	10
10+ to 12	11	7	6	9
12+ to 18	5	3	2	3
Total	55	29	24	38

degree of immunity should be used until a better vaccine is developed. In New York City and 11 other States during 1955 the incidence of paralytic poliomyelitis was 2-11 times lower in the Salk-vaccinated groups. In Massachusetts (which had 3,900 cases of poliomyelitis) the attack rate for the unvaccinated was 157 per 100,000 children; for those who had had one injection, 63 per 100,000 and for those who had received 2 or 3 injections the incidence was 55 per 100,000.[1] In California the incidence of paralytic poliomyelitis was 60% less in those who received one injection and 85% less in those who received two.[2]

In America and South Africa the first injection is recommended after the age of 6 months, because of the passive immunity carried over from the mother. The second dose should be given 6 weeks to 2 months after the first and the third 7 months to a year later. It has also been shown that immunity begins 7-10 days after injection. How long the immunity lasts and whether a booster dose is necessary may take many years to determine.

Except for a few initial mishaps in America, the vaccine has been given safely all over the world. Twenty-five million doses were issued in America during 1955, 860,000 in Canada, 425,000 in Denmark, 100,000 in Germany and 15,000 in South Africa.

The South African vaccine is similar to the Salk vaccine in many respects. It is safe, but there is no statistical evidence of its protective efficacy. Some 300,000 doses have been issued, without any serious reactions being reported.

Nearly all the cases of poliomyelitis on which this report is based occurred during February to June 1956 (Table 2) when I was in charge of the Fever Section of the Boksburg-Benoni Hospital.

TABLE 2: PROVED POLIOMYELITIS ADMISSIONS

	European	*Non-European*
1955		
July	—	—
August	—	—
September	—	1
October	—	3
November	2	—
December	—	1
1956		
January	8	1
February	5	6
March	35	33
April	60	59
May	57	39
June	23	13
Total	190	156

In addition there were 51 European and 34 non-European cases which were diagnosed as not having poliomyelitis.

The figures are exceptionally high when it is realized that the Fever Section officially only has 20 European and 20 non-European beds. No cases were refused admission and all cases were cared for efficiently and well.

The success in handling this epidemic can be attributed to a number of factors. The Provincial Hospital authorities under the direction of the Superintendent Dr. Frack set 2 European and two non-European wards aside for convalescent cases. A physiotherapy unit equipped with a Hubbard tank was built in one week, and all equipment and nursing staff were immediately made available. Physiotherapists were transferred from other units. The Union Health Department supplied urgently needed respirators and the Medical

TABLE 3

			Months		*Years*							
	Males	*Females*	0 *to* 6	6+ *to* 12	1 *to* 3	3+ *to* 5	5+ *to* 10	10+ *to* 15	15+ *to* 20	20+ *to* 40	40+	*Total*
Proved Cases:												
European	111	79	2	9	45	32	49	25	11	15	7	190
Non-European	87	69	5	15	86	24	12	3	5	5	1	156
Cases in Johannesburg:												
European	22	15	1	2	8	8	7	6	1	3	1	37
Non-European	11	3	1	2	6	1	2	—	1	1	—	14
Died in Johannesburg:												
European	11	9	11	1	5	5	—	5	—	3	1	20
Non-European	5	0	—	1	3	—	1	—	—	—	—	5
Total Deaths:												
European	11	10	—	2	5	5	—	5	—	3	1	21
Non-European	12	3	1	3	7	3	1	—	—	—	—	15

Officers of Boksburg and Benoni saw that no cases were refused admission. To Mr. R. G. Spence a special word of praise is necessary, as he spent many days and nights seeing that the equipment was in full working order. The nursing staff and the doctors worked long and hard. For about a month 10 respirators were in use simultaneously and they all needed close supervision.

From Tables 2 and 3 it is clear that the incidence of poliomyelitis is very high among non-Europeans and also that 130 of the 156 cases occurred under the age of 5 years. This was the expected age incidence in most European countries 20 years ago, but in recent years the age incidence has increased in the White populations, as is apparent in Table 3. The high incidence in the young African indicates how necessary it is for this section of the population to receive poliomyelitis vaccine as a matter of extreme urgency. In the Whites there were 88 cases out of 190 under the age of 5 and 49 were in the 5+ to 10 years group. Above 10 there were 53, including 5 pregnant women. As the incidence was highest in those under 5, there is justification for giving priority to this age group.

The severity of the disease was greater in the Europeans. In most of the non-Europeans the greatest degree of involvement was in the lower limbs. Fortunately, most made a complete and uneventful recovery. For those less fortunate, two convalescent wards were set aside for daily physiotherapy. No child was referred back to his home town unless physiotherapy was available. Some Europeans were sent to convalescent homes or their own towns where physiotherapy was available.

The number requiring the respirator was depressingly high—37 European and 14 non-European cases. Kaplan[3] reviewed the repirator cases and discussed the associated problems. Twenty of the European cases died, but had the respirators not been available all the others would certainly have died too. Four non-Europeans died in the respirator.

The Draeger respirator which has a hood and permits artificial respiration from above while working on the patient was most satisfactory. This respirator is both effective and easy to handle. Six cases, in addition to being in a respirator, had tracheotomies performed because of excessive mucus in the throat. These all died. In spite of the claims about how effective tracheotomies can be, my own feeling is that they should be avoided almost at any cost. This is possible if all bulbar cases are fed by intravenous drips and are given minimal amounts of sedative. Sedatives not only depress the respiratory centre, but also mask a useful sign which indicates that the patient is developing air hunger, viz. restlessness.[4] The great disadvantage of the tracheotomy is that the ability to cough is lost and secretions can only be removed by suction.

Antibiotics are not indicated in poliomyelitis, although Aureomycin was used prophylactically in the respirator cases to prevent infection. Perhaps a better procedure would have been to administer the antibiotics in large doses when actual symptoms developed. No side effects developed from the drug.

An important conclusion about the spread of poliomyelitis can be drawn from this series. In many instances the beds were close together and in spite of this 85 cases who did not have proved poliomyelitis, did not contract the disease; also, because of so many respirator cases, there were many visitors, yet none of these contracted the infection. This indicates that the disease may well not be carried by droplet infection, or that there are other additional factors of importance. Also, in 9 cases where there were more than 2 in a family, the second case occurred within 3-5 days of the first. This epidemic seems to show that cases can be nursed in a general ward. If not, why is the isolation period only 3 weeks when the virus is recoverable from the stool for 6 weeks and longer?

In this epidemic the temperatures were very high, often up to 103 or 104° F. It usually took 3-6 days to subside. In only two cases did the paralysis progress markedly after the temperature had subsided. This excludes the respirator cases, for here often the paralysis became progressive after the temperature had subsided. This may be attributed to chronic anoxia or exhaustion. In most cases the improvement was dramatic within 14 days, whether physiotherapy had been given or not.

A stiff neck or back was a most constant and helpful finding. On lumbar puncture there was a definite cellular response in all clinically obvious cases, although the count at times was only 5 or 6 polymorphonuclear cells per c.c. The examination of the stools in nearly all cases showed the presence of type 1 poliomyelitis virus.

In December 1956 I had occasion to see 4 unusual cases, which are briefly noted. Two children were first seen with slight but definite paralysis of a limb. The lumbar puncture was normal. A week later repetition of the lumbar

puncture showed cells in the spinal fluid. A normal lumbar puncture has been described in poliomyelitis, but was not a feature in the Boksburg-Benoni cases.

Another child aged 6 years presented with a stiff neck and repeated convulsions. A cellular response was seen in the spinal fluid and a tentative diagnosis of encephalitis made. Only 24 hours later did definite paralysis of the limbs and intercostal paralysis ensure. The case was confirmed by a contact who developed bulbar poliomyelitis and died at the same time.

In a fourth case, a 6-month-old baby was seen with broncho-pneumonia and a weak cough. No stiff neck or bulbar paralysis developed and the child died. The spinal fluid showed a cellular response and the post-mortem findings confirmed poliomyelitis.

Therapy. Early passive movements and physiotherapy are helpful. This may be mainly psychological, for early improvement is a great comfort for the patient. If progress is rapid, then prolonged bed rest is not indicated; in fact the modern tendency is towards early ambulation. Early activity which was allowed in most of these cases did not produce any set-back.

In this epidemic there was very little muscle spasm except in the severe cases of paralysis, where complete immobility was present. Hot packs and baths were not routinely given, nor were anti-spasmodic drugs administered.

A disturbing feature of therapy was the absence of a prolonged follow-up. What is urgently needed is a complete muscle examination of all cases. Perhaps that is a really worthwhile task which could be undertaken by the National Council for the Care of Cripples. Occasionally a mild undetected weakness may later produce severe deformities.

Prophylaxis. It appears that the present-day vaccine is essential for all children and pregnant mothers.

Moreover, any child with an unexplained fever during an epidemic should be confined to bed. Strenuous activity often produces a serious paralysis. Three of the cases had played rugby the day before admission and all required the respirator. Another factor which may be important is that long traved for a case of poliomyelitis may be detrimental. A mild case of poliomyelitis should not travel long distances, but only cases who are potential respirator patients should be moved to isolation centres if the distance involved is long. Respirators should only be supplied to approved centres, as a lack of knowledge in the use of a respirator may do more harm than the lack of a respirator.

The absence of tonsils in the production of bulbar poliomyelitis is still a contentious problem, although tonsillectomy during an epidemic is generally not advised.

Anderson and Rondeau[5] studied 2,669 cases of poliomyelitis in Minnesota during 1946. In 535 with bulbar involvement, 71.4% gave a history of a previous tonsillectomy, as contrasted with 28.2% of 936 with severe spinal involvement, and 34.8% of 290 with non-paralytic involvement. These authors suggest that tonsillectomy should only be performed for special reasons.

This view needs confirmation. In this series only one case had had a tonsillectomy performed 2 weeks before the onset of the illness. The early incidence of tonsillectomy was not investigated. Perhaps the lower incidence of bulbar poliomyelitis in the non-European may be associated with the fact that tonsillectomy is only occasionally undertaken in this group.

The possibility of an improved oral vaccine seems remote. In experiments with oral vaccine it was found that the injection of a modified type 2 strain of poliovirus only produced 22% antibody response in adults and 77% in children[6]; also the vaccine virus and the faecal virus excreted showed different degrees of virulence. This indicates that the strains used are not wholly efficient or safe.

SUMMARY AND CONCLUSIONS

There is a great deal of natural immunity to all 3 types of poliomyelitis after the age of 3 years.

From the literature it is now firmly established that the Salk-like vaccine is safe and partially effective in decreasing the severity of the paralytic forms of the disease.

Because of the potential dangers of the oral vaccine, many further tests will need to be made before it becomes available.

The epidemic in 1956 showed that the incidence in non-Europeans was unusually high but slightly milder than in the Europeans. The age incidence was also much lower.

Treatment suggested that respirators were life-saving in many cases, but the additional burden of tracheotomy proved fatal in all cases.

As regards prophylaxis, fatigue and travel for long distances should be avoided. Any child with an unexplained fever should be put to bed until poliomyelitis is definitely excluded.

The implication of tonsillectomy as a factor

in the causation of bulbar poliomyelitis is considered.

The infectiousness of this disease in doubtful because of the absence of secondary cases in a large group of persons who were in direct and close contact with many of the cases.

OPSOMMING

Na die ouderdom van 3 jaar ontstaan daar heelwat natuurlike onvatbaarheid vir sover dit al 3 tipes poliomiëlitis betref.

Uit die beskikbare leesstof oor die onderwerp blyk duidelik dat die Salk-entstof veilig en gedeeltelik doeltreffend is vir die vermindering van die erns van die verlammende vorms van die siekte.

Weens die potensiële gevaar van die mondelinge entstof sal talle verdere toetse gedoen moet word voordat hierdie entstof beskikbaar gestel kan word.

Die epidemie van 1956 het aangetoon dat die siekte op 'n buitengewoon groot skaal by nie-blankes voorgekom het, maar in 'n effens ligter vorm as by blankes. Die ouderdom van die slagoffers was ook veel laer.

Die behandeling dui daarop dat asemhalingstoestelle in baie gevalle die lewe van 'n pasiënt kan red, maar die addisionele las wat deur tracheotomie meegebring word, was in alle gevalle noodlottig.

Wat profilakse betref, moet uitputting en lang reise vermy word. Enige kind wat ly aan 'n koorsigheid wat nie verduidelik kan word nie, moet in die bed gehou word totdat daar definitief vasgestel is dat so 'n kind nie aan poliomiëlitis ly nie.

Die implikasie van tonsillektomie as een van die veroorsakende faktore van bulbêre poliomiëlitis word oorweeg.

Die aansteeklikheid van hierdie siekte is twyfelagtig weens die afwesigheid van sekondêre gevalle onder 'n groot groep persone wat in regstreekse en noue aanraking met baie van die gevalle was.

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SOME CARDIAC EMERGENCIES

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Cardiovascular disease out-numbers all others, and is the cause of more than half the total number of deaths after the age of 50.

Acute heart conditions require emergency treatment more than do those of any other organ. Everyone is alive to the dangers of the 'acute abdomen', but the 'acute heart' is even more common and as dangerous. Prompt treatment will save many lives.

The commonest emergency is acute pain in the chest of cardiac origin, and the most common cause of such pain is ischaemic heart disease. About 80% of all sudden cardiac deaths are due to this cause.

The incidence increased by about 10 times in the years between 1926 and 1939, and has continued to do so ever since, so that to-day, amongst the professional classes, it may be regarded as the main hazard to life in those over the age of 40. The peak age of death is 60.

It manifests itself commonly in 3 ways, angina pectoris, myocardial infarction and coronary insufficiency.

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(A) ANGINA PECTORIS

This is due to relative myocardial ischaemia, during effort or emotion, which causes transient pain.

There are 4 characteristics of this pain:

1. *The Site.* The pain is substernal or, less commonly parasternal, and it radiates bilaterally to the arms, the neck, jaws or face.

Localized inframammary pain is never due to angina.

2. *The Quality.* It is gripping, crushing, squeezing or may be burning, numbing, stinging. It is constant while it lasts.

Momentary pain in repeated jabs or knife-thrusts is not angina.

3. *The Duration.* This is for 2-10 minutes. If the pain is momentary or lasts for hours, it is not angina.

4. *Provocation.* It is produced during effort or, less commonly, emotion and is relieved by rest.

Pain *after* effort is not angina.

It is true, however, that in the later stages, in the so-called 'angina decubitus', pain may come on while lying down or stooping due to the greater cardiac output needed when changing from the upright to the horizontal position.

These 4 points are diagnostic. Likewise so are any 3 provided the fourth is not contradictory.

Associated symptoms such as breathlessness, dizziness, faintness or the fear of impending death are of little diagnostic importance. All may occur and, in fact, are more common in functional pain occurring in anxiety states.

The differential diagnosis has to be made from anxiety states, fibrositis and spondylitis, dissecting aneurysm, pulmonary embolism, acute pericarditis, oesophageal spasm, diaphragmatic hernia, respiratory diseases such as pleural pain, pneumothorax or asthma, and abdominal complaints such as gall bladder disease, perforated peptic ulcer and acute pancreatitis. A spastic colon may also give rise to difficulty if the splenic flexure is the area involved.

Physical examination is often completely negative.

It is in these cases that the value of two special tests may be of great help.

1. The effect of sucking trinitrin tablets (gr. 1/100) or the inhalation of amyl nitrite. In true angina relief follows in a few minutes.
2. An electrocardiogram immediately after exercise will show characteristic depression of ST waves in the left ventricular surface leads.

Immediate relief is obtained by giving trinitrin or amyl nitrite.

Recent and severe cases should be put to bed for 3 weeks. Some help may be obtained by giving aminophylline, khellin, peritrate or pentoxylon orally.

(B) MYOCARDIAL INFARCTION

Myocardial infarction causes the death of a mass of cardiac muscle owing to deprivation of its blood supply. It is commonly caused by coronary thrombosis.

The amount of muscle death depends on the collateral circulation and the size of the vessel which is occluded. The onset is sudden, but there are commonly premonitory symptoms in the shape of anginal pains, often of an atypical nature, in the days or weeks preceding the attack.

The pain is indistinguishable from that of angina in its site and quality, but the duration may be for hours or days, and the severity may be extreme. Occasionally it may amount to no more than a feeling of pressure. There may be no other symptoms or it may be accompanied by shock, breathlessness amounting to suffocation, syncope and vomiting.

The first essential is to give the patient morphine either subcutaneously or intravenously. A quarter of a grain may be given in 2 ml. of normal saline intravenously, 3 minutes being taken to give the injection. Striking relief is often obtained.

The most serious complication is shock, the patient being grey, cold, sweating with a running pulse of poor volume and a marked fall in blood pressure. It may be treated by intravenous Levophed, 4 mg. in 1,000 ml. of 5% glucose in water. Alternatively, Neosynephrine 5-10 mg. intramuscularly, and repeated hourly, may be given.

The patient is placed in the Trendelenburg position and given oxygen. If improvement does not occur he may be given digoxin (1 mg.) intravenously.

Left ventricular failure is common, a gallop rhythm being present. If mild, it responds to rest, salt restriction and a mercurial diuretic.

Congestive failure is treated by digitalis or digoxin. To minimize the risk of inducing arrhythmias, quinidine sulphate gr. 3, *t.i.d.*, by mouth, may also be given.

Arrhythmias occur frequently. The most common are premature beats, then auricular fibrillation, flutter or tachycardia. The most serious are ventricular tachycardia and fibrillation which accounts for 10% of deaths. These are treated by quinidine gr. 3, 2-hourly, or Pronestyl.

Heart block may also occur. Adrenaline may be life-saving during a Stokes-Adams attack, although ordinarily it is avoided in myocardial infarction, owing to the risk of causing ventricular fibrillation. Ephedrine gr. ½, 4-hourly, may be given orally to prevent recurring seizures.

Thrombo-embolism is a very real danger. It is recognized in 10% of clinical cases, but at necropsy 45% of cases show evidence of it. The most dangerous period is from the 5th or 6th day to the end of the third week. Phlebo-thrombosis of the legs is the most common cause of pulmonary embolism.

The next most important thrombotic complication is cerebral thrombosis or embolism.

Anti-Coagulants have therefore come to be regarded as essential in all serious cases of myocardial infarction. Their use has decreased the death rate from 23% to 13%.

Heparin is given immediately intravenously or intramuscularly (100 mg. 8-hourly).

At the same time, Dindevan, 100 mg. twice daily, is given orally. It takes about 24

hours to influence the prothrombin index, so that heparin can be discontinued after 24 hours. The usual maintenance dose of Dindevan is 50-100 mg. daily, but the dose varies with the estimated prothrombin times, and with clinical evidence of any haemorrhage.

The first evidence of bleeding frequently occurs in the urine. It is wise, therefore, to examine the urine twice daily for blood, and to stop administration at the first sign of blood in the urine.

Cardiac rupture occurs in about 1% of cases. It is usually not a dramatic episode, and death occurs gradually with tamponade.

Left ventricular aneurysm occurs in 22% of fatal cases. The aneurysm can be visualized by fluoroscopy and demonstrated by persistent electrocardiographic signs.

Pericarditis can be localized or diffuse. It needs no specific treatment and usually subsides.

TREATMENT

Bed rest for 3-6 weeks is essential.

Semi-starvation for a few days, and then an 800 calorie diet again for a few days, halves the death rate. It is generally wise to sedate the patient with phenobarbitone or Amytal after the need for morphine has worn off.

(C) CORONARY INSUFFICIENCY

This term is used to describe those cases of ischaemic heart disease that cannot be called angina pectoris or myocardial infarction, but are something between the two. The site and quality of the pain are the same, but the duration may be more prolonged than in angina, and the provocation be neither effort or emotion.

These attacks are not generally so severe as are attacks of cardiac infarction; are generally not accompanied by shock, and the prognosis is better with 3 or 4 weeks of rest in bed or a chair. They are caused by subendocardial ischaemia which, if severe enough, may lead on to subendocardial necrosis of any part of the left ventricle.

The precipitating cause may be anything that lowers the cardiac output and blood pressure, e.g. haemorrhage, shock, vasovagal syncope, pulmonary embolus or the onset of an abnormal rhythm.

They may occur after coronary thrombosis without infarction, and they may herald the onset of a frank myocardial infarction.

Trinitrin may be effective if relative ischaemia alone is present; but if necrosis has occurred, trinitrin will be ineffective.

The electrocardiogram shows depression of RST segments in the left ventricular leads, and negative T waves may last for several days.

Dissecting Aneurysm is often forgotten in the differential diagnosis of cardiac-like pain. It is important, for if suspicion of such a diagnosis exists, no anticoagulant should be given. It must be thought of in a patient who has no electrocardiographic evidence of myocardial infarction despite having a pain which suggests it, or when there is evidence of peripheral arterial or nerve involvement with such a pain, or where the pain is mainly referred to the shoulders, back or abdomen.

Absolute rest and relief of pain are the only lines of attack.

Syncope is usually non-cardiac in origin. It may be neurogenic, being caused by unpleasant sights or smells. It may be caused by vasodilation, e.g. in those who use heating pads, or it may be postural due to a rigid upright position.

It may be also caused by a hypersensitive carotid sinus, by hypoglycaemia or by hysteria associated with over-breathing.

In organic heart disease it is usually due to the Stokes-Adams syndrome in heart block, the onset of paroxysmal tachycardia, acute coronary occlusion, and aortic stenosis.

SURGERY IN THE CARDIAC PATIENT

Most patients with heart disease tolerate an operation well, except those in cardiac failure or those with a recent myocardial infarction. When congestive failure exists, rapid digitalization with digoxin should first be carried out, adequate oxygen should be given during the operation and administration of normal saline after the operation be avoided.

In those with coronary disease, anoxia is to be particularly avoided, and hypotension prevented if possible.

General are preferable to local anaesthetics, pentothal induction followed by ether or cyclopropane and oxygen being commonly used.

Quinidine or Pronestyl may be given before operation to prevent arrhythmias. The main danger is that of post-operative thromboembolism.

Cardiac arrest is usually due to an overdose of anaesthetic, or it may occur through marked

vagal stimulation. This can be prevented by giving atropine before operation.

It does not matter immediately whether the collapse is due to ventricular fibrillation or cardiac arrest.

The heart is exposed and cardiac compression commenced as quickly as possible, while oxygen is administered continuously. If the heart does not contract spontaneously after a few minutes, fibrillation is suspected, 5 ml. of 1% procaine solution is injected into the right auricle, and an electric current of 110 volts and 1.5 amperes is passed through the heart.

Adrenaline, 1 ml., can also be injected, and compression is continued for at least 40 minutes. Artificial respiration should be started simultaneously with these measures.

If the patient is at home and facilities for the foregoing treatment are not available, thumping of the chest wall may produce some result in such an emergency.

SUMMARY

Cardiovascular disease outnumbers all other diseases and is the cause of more than half the total number of deaths after the age of 50 years.

Acute heart conditions require emergency treatment.

The commonest manifestations are:

(*a*) Angina pectoris;
(*b*) Myocardial infarction;
(*c*) Coronary insufficiency.

Surgery in the cardiac patient is briefly reviewed and the management of cardiac arrest is considered.

OPSOMMING

Na die ouderdom van 50 jaar is daar meer gevalle van kardiovaskulêre siekte as alle ander siektes saam, en eersgenoemde veroorsaak meer as die helfte van die totale aantal sterfgevalle.

Noodbehandeling is nodig vir akute harttoestande. Die bekendste openbarings daarvan is:

(*a*) Angina pectoris;
(*b*) Miokardiale infarkt;
(*c*) Koronêre gebreke.

'n Kort oorsig word verstrek van die chirurgiese behandeling van die pasiënt wat aan hartkwaal ly, en die bestuur van kardiale stilstand word oorweeg.

DESMOID TUMOURS

LEON BRYER, F.R.C.S. (ED.)
Baragwanath Hospital, Johannesburg

The desmoid tumour is essentially a fibroma but it presents a number of distinctive characteristics. It arises typically from the aponeurotic sheaths of the muscles of the anterior abdominal wall, but it may occur in relation to other muscles which, according to Pearman and Mayo's series,[4] are predominantly the pectoralis major, the muscles about the scapula, the rectus femoris and the gluteal muscles.

It is an uncommon tumour. Pack and Ehrlich[3] report its incidence as 0.03% of 50,000 neoplastic tumours admitted to the New York Memorial Hospital over 26 years and quote an incidence of 0.13% in Guerlt's collection of 16,000 tumour cases from Vienna hospitals.

The tumour appears first to have been reported in 1832 by McFarlane of Glasgow, who wrote of two tumours of the abdominal wall, one of which he described as a 'Fibrocartilagenous tumour'. The term desmoid (compounded from two Greek words and meaning 'band appearance') was first introduced by Mueller in 1838, because he was impressed by the dense tendon-like consistency of the tumour.

AETIOLOGY

Desmoids occur predominantly in females of childbearing age. In more than 80% of the cases reported, the women had borne one or more children and in many of the remainder the growths arose at the site of old scars of operations or other injuries. There is thus a strong inference that the tumour arises on the basis of some trauma inflicted on the abdominal muscles by gestation or during labour or by operation.

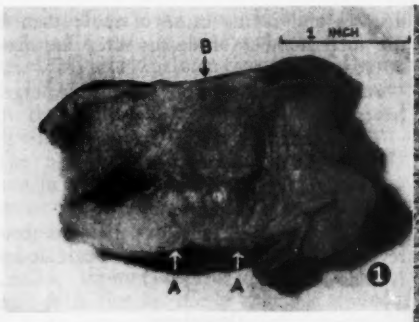
A different aetiological concept has been advanced on a hormonal basis on the following grounds:

(*a*) Their occurrence during or after pregnancy.

(*b*) Geschickter and Lewis[2] established by bioassays of myomata of the uterus and fibro-adenomata of the breast that these tumours yield varying amounts of anterior pituitary gonadotrophic hormone and oestrogen. They demonstrated a concentration of 13,000 rat units per kg. gonadotrophic substance in a desmoid tumour.

(*c*) Cases of lower abdominal desmoids treated by high voltage X-ray therapy resulted in improvement which was attributed to concomitant destruction of ovarian function. On this basis Pack and Ehrlich[3] tried radiation castration for an inoperable desmoid and obtained regression of the tumour.

(*d*) Desmoids in males are generally reported as being radio-resistant.



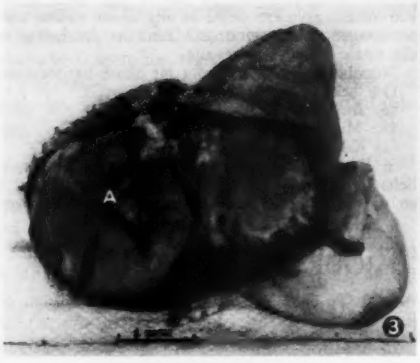


Fig. 1. Tumour excised from Case 2 showing a typical, dense, non-encapsulated, fibrous growth infiltrating the subcutaneous tissue and extending from the rectus sheath posteriorly (indicated by arrows at A) right up to the skin which is obviously adherent (indicated by arrow at B).

Fig. 2. Histological section showing the usual dense appearance of a desmoid seemingly arising from underlying muscle sheath without obvious invasion of the muscle (A) in this section (Case 2).

Fig. 3. Tumour excised from Case 3 following pre-operative radiotherapy. Large malignant-looking ulcer crater (A) seen on the left.

PATHOLOGY

A desmoid is invariably solitary, occurring with the greatest frequency in the rectus muscle, usually below the umbilicus. It never arises exactly in the midline but always to one or other side of it. It differs from the ordinary fibroma in that it is not encapsulated and infiltrates adjacent muscle and subcutaneous tissue. The invaded muscle is destroyed and replaced by the growth. Unless it is widely and completely excised, recurrence is frequent; but the tumour is not malignant in the sense of producing metastases or infiltration of the associated lymph glands.

It may invade down to and involve the peritoneum, from which it is then inseparable, but it is unlikely to penetrate the peritoneal cavity. Although it is generally described as seldom becoming attached to the skin, the specimen excised from Case 2 (Figs. 1, 2) shows a desmoid arising from the rectus sheath and infiltrating the subcutaneous tissue only (underlying muscle not invaded) with tethering of the skin; while in Cases 3 and 4 (Figs. 3, 4) a desmoid has eroded through the skin and produced an extensive ulcer crater. It is significant that in both these latter cases the patients had undergone previous operations for excisions of simple lumps and it is the subsequent recurrence that has broken through the skin.

When the tumour arises from the internal or external oblique (next in frequency to the rectus) it often does so close to the iliac crest and may infiltrate to the periosteum and become firmly attached to the inner aspect of

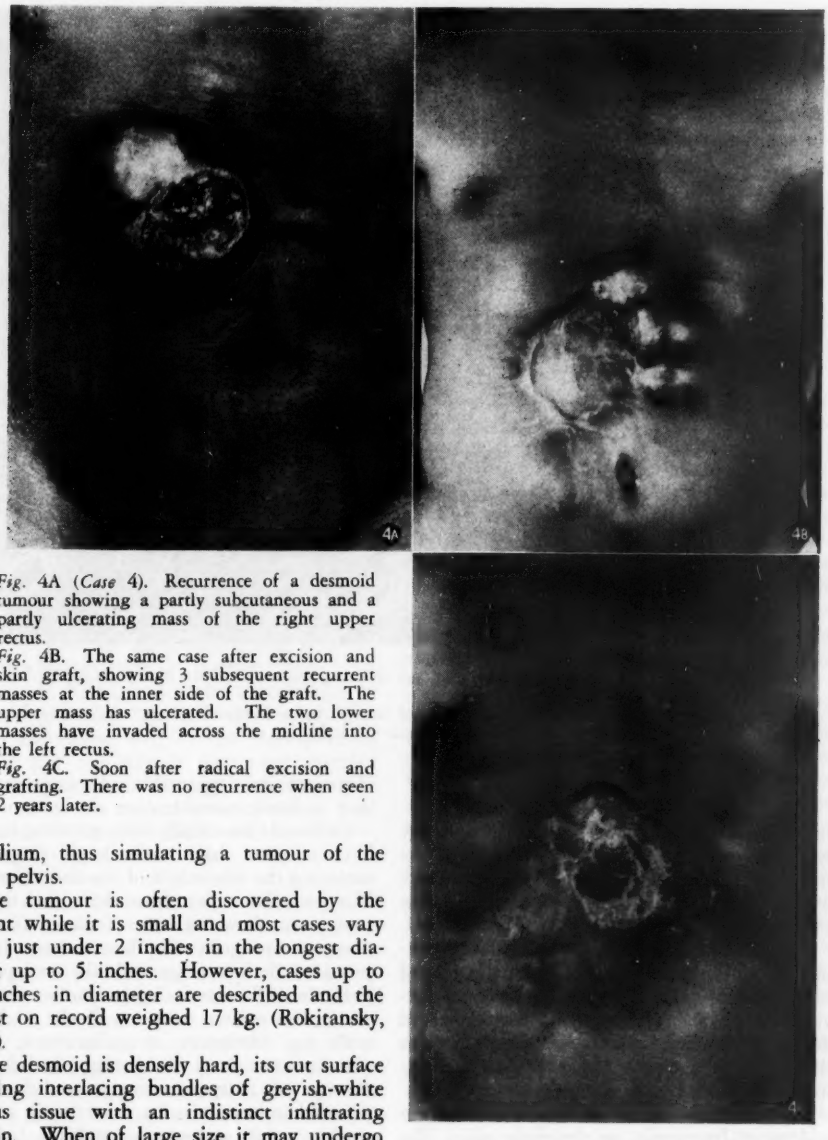


Fig. 4A (*Case* 4). Recurrence of a desmoid tumour showing a partly subcutaneous and a partly ulcerating mass of the right upper rectus.
Fig. 4B. The same case after excision and skin graft, showing 3 subsequent recurrent masses at the inner side of the graft. The upper mass has ulcerated. The two lower masses have invaded across the midline into the left rectus.
Fig. 4C. Soon after radical excision and grafting. There was no recurrence when seen 2 years later.

the ilium, thus simulating a tumour of the bony pelvis.

The tumour is often discovered by the patient while it is small and most cases vary from just under 2 inches in the longest diameter up to 5 inches. However, cases up to 12 inches in diameter are described and the largest on record weighed 17 kg. (Rokitansky, 1880).

The desmoid is densely hard, its cut surface showing interlacing bundles of greyish-white fibrous tissue with an indistinct infiltrating margin. When of large size it may undergo mucoid or cystic degeneration in the centre.

The Microscopic Appearances. The structure is that of a rather cellular fibroma. The central portion of the tumour shows adult fibrous tissue cells in strands and bundles which interlace in all directions. At its periphery, where it infiltrates the surrounding muscle, there is a tendency for the tumour to be somewhat more cellular.

Even in the most cellular type of desmoid (Case 3, Fig. 5) the histological picture does not suggest sarcomatous change.

However, there is no capsule and the tumour is clearly of an infiltrating type. A special feature, therefore, is the inclusion in it of striped muscle fibres showing various stages of degeneration (Fig. 6).

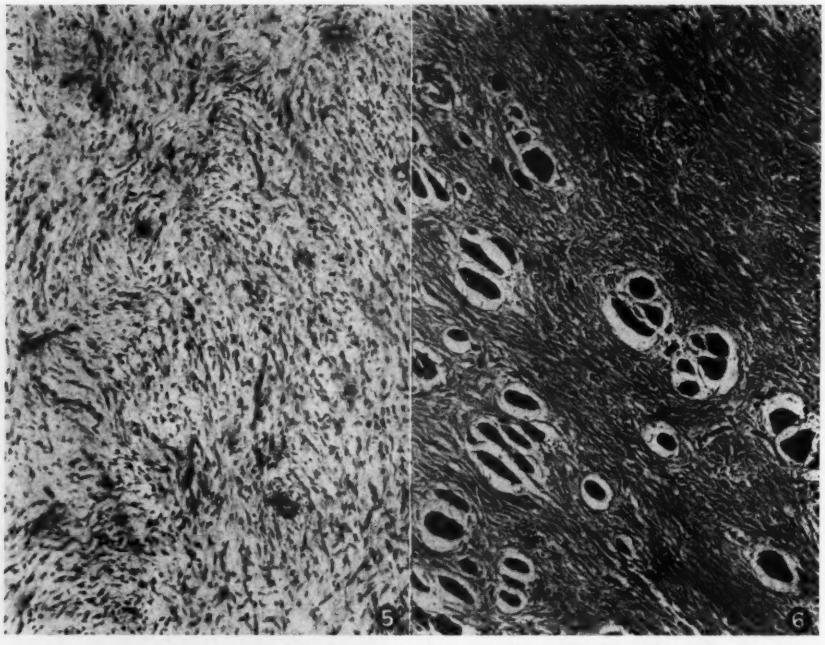


Fig. 5. A highly cellular type of desmoid, yet showing no sarcomatous change (Case 3 before radiotherapy).
Fig. 6. Typical infiltration and replacement of muscle by a desmoid tumour Atrophied and necrosed muscle bundles with absent nuclei seen (Case 1).

CLINICAL FEATURES

In most cases the tumour produces few if any symptoms, and is discovered accidentally by the patient. With the larger growths there may be a dull pain or ache localized to the site of the tumour.

The tumour occurs typically in women during the childbearing age. It is usually related to a previous pregnancy or the scar of a previous operation. The mass has been observed during pregnancy, although in each instance there had been one or more preceding pregnancies.

The common site is in the lower abdomen and more frequently on the right side. The tumour is discrete, smooth in outline, often has a flat feel and is characteristically hard. It can be moved at right angles to the long axis of the muscle in which it lies. It is readily distinguished from an intra-abdominal tumour by getting the patient to contract her abdominal muscles by raising her head and shoulders. The tumour then is fixed and readily felt, whereas an intra-abdominal tumour becomes indistinct and impalpable. In most cases the skin is freely movable over the tumour.

Desmoids are usually slow growing tumours, but in time may reach huge proportions, replacing the whole half of the abdominal wall. However, since apart from their local invasiveness, they show no other features of malignancy, the prognosis for these tumours is good, provided that they are radically extirpated.

In the *differential diagnosis* other cutaneous and subcutaneous tumours of the abdominal wall, e.g. fibromata, neurofibromata, keloids and lipomata, may be distinguished by their absence of fixity on contraction of the abdominal musculature, by some being adherent to skin and by some being multiple.

A large desmoid situated in the inguinal region and becoming attached to the bony pelvis, will have to be distinguished from a tumour of the pelvis itself, e.g. chondroma, osteoma, periosteal fibrosarcoma and osteogenic sarcoma. The history of the development of the growth and radiography will help in such instances.

Various intra-abdominal tumours, e.g.

uterine fibroids and ovarian or bowel carcinomata (if attached to the anterior peritoneum) have been described as simulating a desmoid, but they can usually be ruled out by adequate examination.

Finally there are a few rarer deep-seated conditions in the abdominal wall, e.g. an organizing haematoma, a gumma, or an intramuscular lipoma, which may only be finally differentiated at operation.

TREATMENT

The treatment of choice for desmoids is radical surgical excision. To be on the safe side and to avoid the danger of recurrence, it is advisable to remove a clear margin of normal tissue adjacent to the growth.

This may result in large defects in the abdominal wall of skin, muscle and peritoneum. It is usually possible to mobilize the peritoneum sufficiently to effect closure.

Where primary closure of the muscle or fascial layers is not possible, recourse may be had to the use of tantalum wire mesh (Case 1) or fascial repair (Case 2).

Relatively large areas of skin loss can be closed by adequate mobilization and, if necessary, combined with a rotation flap. Ye, Devine and Kirklin[8] describe a technique of transferring a skin flap from the healthy part of the abdominal wall to the corresponding forearm and this flap is then used together with tantalum mesh to close a defect of 10 cm. × 10 cm. in the anterior abdominal wall.

Another technique (which could be effective in similar circumstances with a desmoid) is described by Bruck[1] in the case of a 3½-year-old girl with a third recurrence of fibrosarcoma of the abdominal wall which was cured with radical excision and plastic reconstruction of all 3 layers of the abdominal wall. The bladder was used to help close the defect in the peritoneum in the lower part of the wound, the muscle layer was reconstructed with a pedicled fascia lata flap taking the whole of that structure from one thigh and turning it upwards under a tunnel of inguinal skin, and the skin was replaced with a tubed pedicle from the other thigh.

Radiotherapy in the treatment of desmoids is generally held to be of little value, as is the case with the related low-grade fibrosarcoma.

It can be tried in poor risk cases or preoperatively in cases with extensive recurrences (as in Case 3) where it may help by virtue of its restraint of growth.

ILLUSTRATIVE CASES

Case 1. V. M., a Bantu female aged 28 years was admitted on 9 December 1955. She was a para. 4. Following the birth of her baby 2 years before she noticed a lump in her abdomen. This lump slowly increased in size and was slightly painful.

A hard, almost cartilaginous, plaque-like mass was felt in the left upper rectus extending down to the level of the umbilicus. At operation a desmoid tumour was found, which had infiltrated and replaced the upper left rectus muscle over an area of 5 inches long and 3 inches wide and had become densely adherent to the anterior peritoneum.

The tumour together with the overlying rectus sheath, adjacent normal muscle and adherent peritoneum was excised. The peritoneum was mobilized and sutured. A piece of tantalum mesh corresponding to the area of the muscular defect was sutured to the edges of the anterior rectus sheath and the skin closed over it. Histology revealed the features of a desmoid tumour (Fig. 6). When the patient was seen again after 9 months there was no evidence of recurrence of the tumour and no apparent weakness in the abdominal wall.

Case 2. B. M., a Bantu female aged 24, para 2, was admitted on 19 July 1956. She complained of a mass in the lower abdomen for the past 7 months. It had recently been growing quickly. Pain was present and the mass was tender to the touch.

A hard oval mass about size of a hen's egg, but irregular in outline, was found to be present, apparently arising from or overlying the lower right rectus sheath. It was mobile over the tensed rectus and attached to the skin over an area of about 0.5 sq. inch. It was tender to palpation. The inguinal glands were not enlarged.

At operation an ellipse of skin was excised to include the adherent area. A hard, non-encapsulated tumour arising from the lower right anterior rectus sheath and invading the subcutaneous tissue was widely excised together with a wide base of anterior rectus sheath. There was no suggestion that the tumour had penetrated inwards through the rectus sheath.

The defect in the anterior rectus was repaired with a darn of fascia lata taken from the right thigh. The patient returned only once to the Surgical Outpatient Department 3 weeks after discharge from hospital. At that stage her wound appeared well healed. Histo-

logical section of this tumour confirmed the diagnosis of a desmoid tumour.

Case 3.* M. Z., a Bantu male aged 38 years, presented on admission with a lobulated mass of the lower abdominal wall, the main part replacing most of the right lower rectus and presenting a large malignant looking ulcer crater. The other part of the tumour extended across the midline into the left rectus. This portion was covered by, but was attached to the skin. The initial diagnosis was that of a squamous celled carcinoma of the abdominal wall. Apparently the patient had first sought treatment for a lump in the lower right side of the abdomen 6 years before. Apart from the first operation for removal of the lump, he had undergone two further operations for subsequent recurrence of the tumour.

A biopsy was taken and the report (Dr. J. Higginson) stated that the histological features were those of a non-encapsulated fibromatous tumour, the appearance of which suggested origin from a desmoid, but possible origin from a neurofibroma could not be excluded.

An opinion was sought from the radiotherapist who felt that this type of tumour would be radio-resistant but suggested that it would, however, be worth attempting some growth restraint by pre-operative radiation. A course of deep X-ray therapy was therefore given. About 6 weeks later it was felt that some regression of the tumour had taken place, although there is a possibility that this was due to subsidence of inflammation of the ulcerated area.

Wide excision of the tumour was then undertaken (Fig. 3). Further section of the total tumour showed the histological features of a desmoid.

Case 4.† The patient, a Bantu male of 40 years, had had a swelling of the right upper rectus muscle for 4 years before having it excised at a country hospital. It recurred after about 18 months and he then presented as in Fig. 4A with a partly subcutaneous and partly ulcerating mass of the right upper abdominal wall. This was excised, including the anterior sheath of the rectus muscle, and then grafted. Histological section showed the features of a desmoid tumour.

The tumour, however, again recurred at the medial border of the graft and infiltrated beyond the midline, presenting as three contigous masses (Fig. 4B), the upper one ulcerating through the skin.

Removal of the tumour was again undertaken with wide excision of the infiltrated recti muscles down to and including the underlying peritoneum. It was possible to close the defect without any special reinforcing measures beyond further skin grafting. Fig. 4C shows the result soon after operation.

After 2 years' follow-up there has been no recurrence or obvious weakness of the abdominal wall.

* I wish to thank Mr. S. Kleinot, Senior Surgeon at Baragwanath Hospital, for enabling me to quote this case, which is under treatment in his Unit.

† I am very much indebted to Mr. P. Keen, Surgeon-in-Charge of the Non-European Section of the Johannesburg Hospital, for supplying me with the details and photographs of this case of desmoid tumour that came under his care.

SUMMARY

The aetiology, pathology, clinical features, differential diagnosis and treatment of desmoid tumours are discussed.

Although locally invasive, desmoids do not produce metastases, nor do they implicate the corresponding lymph glands.

Ideal treatment is wide excision. Unless the tumour is radically extirpated, recurrence is extremely common.

As an alternative form of treatment, radiotherapy produces growth restraint and may effect some regression of the tumour.

Four cases are described, 3 of which illustrate unusual features occurring in desmoid tumours.

OPSOMMING

Die etiologie, patologie, kliniese kenmerke, differensiële diagnose en die behandeling van desmoïedegewasse word bespreek.

Hoewel desmoïede plaaslik indringend is, produseer hulle geen metastase nie, en hulle syfer ook nie deur na die ooreenstemmende limfkliere nie.

Die ideale behandeling is breë uitsnyding. Tensy desmoïede radikaal uitgeroei word, is herverskyning 'n doodgewone verskynsel.

'n Alternatiewe behandelingsmanier is radioterapie wat die groei van die geswel stuit en dit ook kleiner kan maak.

Vier gevalle word beskryf. Drie daarvan illustreer buitengewone kenmerke wat in desmoïedegeswelle aangetref word.

I wish to express my thanks to Dr. John Higginson and Dr. I. W. Simson for their help and advice with the pathological reports; and to the Photographic Department of the South African Institute for Medical Research for their photographs of the histological sections illustrated in this article.

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NOTES AND NEWS · BERIGTE

PREVENTION OF ANAPHYLACTIC REACTIONS

The following information, published in the *Queries and Minor Notes* section of the *Journal of the American Medical Association* on 26 January 1957, provides further evidence on the practicability of using an antihistamine concomitantly with other drugs:

'*To the Editor*: Please supply information on the use of antihistamines in the prevention of serum (anaphylactic) reactions. Please include tetanus antitoxin.—M.D. Puerto Rico.

Answer: Antihistamines have been widely used to prevent or lessen anaphylactic reactions that may occur after administration of blood, antitoxins, penicillin and contrast mediums such as are used for pyelography. The incidence of transfusion reactions has been markedly reduced. Wilhelm and coworkers (J.A.M.A., **158**: 529, 1955) added 50 mg. of diphenhydramine hydrochloride to 518 units of whole blood, with complete elimination of allergic (but not pyretic) reactions. Stephen and his associates (J.A.M.A., **158**: 525, 1955) used tripelennamine hydrochloride in a dosage of 25 mg. in 1 c.c. of solution added to the blood just prior to transfusion. This caused a reduction in both allergic and pyretic reactions. Frankel (Ann. Allergy **13**: 319, 1955) used 10 mg. of chlorprophenpyridamine (Chlor-Trimeton) maleate in the same manner and noted only one reaction in 361 transfusions (0.3%). In a control group, four allergic or pyrogenic reactions occurred in the course of transfusion of 111 pints (55,500 c.c.) of blood (3.6%). Winter and Taplin (Ann. Allergy, **14**: 76, 1956) found that " the high incidence of both acute febrile and allergic reactions to the transfusion of whole blood (11.3%) may be reduced to less than 1.0% by the prophylactic use of an antipyretic (acetylsalicylic acid) orally plus the admixture of 50 mg. of an antihistamine (chlorprophenpyridamine maleate—Chlor-Trimeton) to each unit of blood prior to its administration ". Each of 323 patients was given 0.65 g. of acetylsalicylic acid orally one hour before transfusion and every 3 hours thereafter during the transfusion; the minimal dose was 1.3 g. Epinephrine has also been mixed with the blood and has been beneficial. Its effect, while prompt, is less enduring.

Penicillin reactions are becoming increasingly frequent and severe. The addition of either antihistamine or of epinephrine definitely lessens the incidence of the anaphylactic type of reaction but is not too effective as regards the delayed urticarial symptoms.

Untoward reactions, both minor and severe, are a common experience in urography. Sanger and Ehrlich (Ann. Allergy, **14**: 254, 1956) mixed 20 mg. of chlorprophenpyridamine maleate with the contrast mediums. Severe shock reactions were eliminated in their 623 patients. The incidence of moderately severe reactions was reduced to 25%, as compared to a control group of 379 patients who received only the dye.

Tetanus (and diphtheria) antitoxins represent possibilities that are similar yet different. A high and increasing percentage of the population is protected by previous administration of tetanus and/or diphtheria toxoid. In case of injury, a booster dose of tetanus toxoid acts promptly and safely and is highly effective, and there is no need for the potentially dangerous antitoxin. Every person who has received toxoid should carry a tag or card in his billfold stating that the bearer has received tetanus toxoid and, in event of injury, should receive a booster of the toxoid but not antitoxin.'

* * *

THE DOCTORS' THREAT

The doctors' determination to go ahead with strike action is an additional embarrassment to the government now facing a shipbuilding, engineering, and perhaps even a railway strike. It had always been Mr. Macmillan's hope to stave off the doctors' wrath by hurrying through an announcement of an interim award. Although this would not have been very great, it could have been directed in such a way as to relieve the worst financial pressure on the most badly paid doctors and thus take the sting out of their resentment. Unfortunately for Mr. Macmillan, the shadow of the shipbuilding strike overtook him before his plans could mature, and he now hesitates to announce any concession to the doctors which might easily inflame feeling in the industrial world. He, therefore, has to stand by helplessly while the doctors' strike plans mature. The B.M.A. negotiating committee is convinced that their new plan for organizing strike action will convince the government that they mean business. Strike action could not, of course, be launched in a hurry; doctors who intend to withdraw their services would have to give at least three months' notice. This means there would be an interval during which the government might hope to appease the doctors by some financial gesture. But there is no doubt that the doctors are in a fighting mood and, like the engineers, would not reconsider their threat to withdraw their labour except against a cash offer.

[From *The New Statesman and Nation*, 23 March 1957, p. 366.]

* * *

Dr. Charles Widgerow, B.Sc., M.B., B.Ch., D.A., is now practising on his own as a Specialist Anaesthetist at 1001 Cavendish Chambers, Jeppe Street, Johannesburg. (Telephones: *Rooms*: 23-5014; *Residence*: 41-2845).

THE BENGER PRIZES FOR ORIGINAL OBSERVATIONS IN GENERAL PRACTICE

In a recent issue we published an announcement about this competition organized by Benger Laboratories Limited, to encourage the submission by medical practitioners of *An Original Observation of Value in General Practice*. Entries will be judged by the Awards Committee of the College of General Practitioners.

Every entry must bear a *nom-de-plume* and in no circumstances must the entrant's name or address appear on any part of the MS.

Every entry must be accompanied by a sealed envelope containing the entrant's name and address, and this envelope must bear plainly on the outside the entrant's *nom-de-plume*.

Reports may be submitted in the form of an essay, a report or as a conventional medical paper, etc. The observations submitted *must not have been published and must not be generally known.*

The closing date for entries is 31 July and must be addressed to:

Chairman of the Awards Committee,
The College of General Practitioners,
54 Sloane Street,
London, S.W.1, England.

* * *

CORTICOSTEROID THERAPY

Corticosteroid Therapy: *Fundamental Principles and Current Concepts* is the title of a monograph recently issued by the Pfizer Organization. It is a practical guide to the corticosteroids and provides a comprehensive review of the physiological and clinical basis of modern adrenocortical therapy.

The monograph is illustrated with beautiful colour plates and concludes with a very comprehensive bibliography of 107 recent papers.

Medical practitioners interested in receiving copies of this monograph should write to:

Pfizer Laboratories S.A. (Pty.) Ltd., P.O. Box 7324, Johannesburg.

* * *

NAPT CHEST CONFERENCE

The NAPT Commonwealth Chest Conference to be held in London from 1-4 July 1958, has extended the scope of the work of the Association to include diseases of the chest and the heart, as well as tuberculosis.

The previous Conference in 1955 was attended by 1,700 representatives from 60 countries and it is anticipated that the 1958 meeting will be even more successful.

Medical practitioners wishing to have further details about the next Conference should communicate with the Press Officer, NAPT Commonwealth Chest Conference, Tavistock House North, Tavistock Square, London, W.C.1, England.

* * *

Dr. John G. Cowley, M.B., B.Ch., D.T.M. & Hyg., M.R.C.P. (Edin.), has commenced practice as a Dermatologist at 27 Lister Buildings, Jeppe Street,

Dr. Cowley also has rooms at 201 Rosebank Galleries, Rosebank, Johannesburg. (*Telephone*: Johannesburg. (*Telephone*: 22-5307). 42-5489).

THE NUTRITION SOCIETY OF GREAT BRITAIN

The next meeting will be held at Cambridge, England on 5 and 6 July 1957. It will take the form of a symposium on *Flour and Bread.*

The Chairman is Sir Rudolph Peters, and the speakers include such well-known scientists as Dame Harriette Chick, Prof. R. A. Morton, Dr. H. M. Sinclair and Dr. D. W. Kent-Jones.

The papers will be about the technical side of milling, various human experiments that have been carried out, fortification of white flour and the Cohen Panel Report.

* * *

Dr. A. J. L. van Rooyen, M.B., B.Ch., Dip. O. and G. (Rand), has commenced practice as an obstetrician and gynaecologist with Dr. Alan J. S. Boyd and Dr. G. P. Charlewood at 1104 Medical Centre, Jeppe Street, Johannesburg. (Telephones: *Rooms*: 23-2174; *Residence*: 46-1731).

* * *

Dr. Neville Sacks, M.B., Ch.B. (Aberdeen), was recently admitted a member of the Royal College of Physicians of Edinburgh.

Dr. Sacks (the son of Dr. and Mrs. I. Sacks of Bloemfontein) at present holds an appointment at Grey's Hospital, Pietermaritzburg.

* * *

Chas. F. Thackray (S.A.) (Pty.) Ltd., under the direction of Mr. M. Stabler, M.P.S., have taken premises on the first floor of Medical Centre, Heerengracht, Foreshore, Cape Town.

* * *

Dr. David Judes, M.B., B.Ch., D.O., R.C.P. & S. (Eng.), has commenced practice as an ophthalmic surgeon at 304 Medical Centre, Jeppe Street, Johannesburg. (Telephones: *Rooms*: 22-6389; *Residence*: 44-1388).

PREPARATIONS AND APPLIANCES

PELARGON (NESTLÉ)

ACIDIFIED FULL CREAM POWDERED MILK WITH ADDED CARBOHYDRATES, FOR INFANT FEEDING

Pelargon is manufactured from rigorously controlled milk, acidified with 0.5% lactic acid, to which has been added 2% starch and 5% sugar (dextrin-maltose and sucrose). It is pasteurized, homogenized and then spray dried.

Pelargon is bacteriologically safe and the process of manufacture effects beneficial changes in the characteristics of the fat and protein components of the milk.

Pelargon affords increased resistence to infections, diarrhoea, anaemia and rickets.

The acidity of *Pelargon* and its starch content offer an added advantage by yielding finely dispensed curds in the stomach. *Pelargon* is therefore easily digested.

PERCENTAGE COMPOSITION (POWDER)

Fat	17.0%	Starch (pre-cooked)	8.5%
Protein	16.5%	Total carbohydrates ...	57.0%
Lactose	23.5%	Lactic Acid ...	2.2%
Sucrose (added)	12.5%	Mineral salts ...	4.3%
Dextrin - maltose (added)	12.5%	Water	3.0%

Some Advantages: The fat is very well tolerated, due to acidification.

The fine coagulation of the protein is maintained by the starch (dextrinized) and the casein is totally decalcified.

It is anti-dyspeptic, the lactic acid checking the action of harmful bacteria.

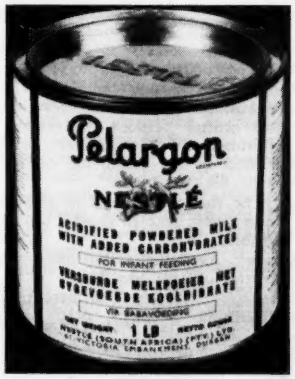
There is improved assimilation of calcium and iron.

It is free from harmful bacteria and therefore offers maximum security, while retaining the biological value of fresh milk.

Uses: For premature infants; for partial or complete artificial feeding of healthy babies from birth onwards; in cases of vomiting and marasmus, skin disorders, dyspepsia, diarrhoea, etc.

Note: To obtain the equivalent of undiluted cow's milk, with 5% added dextrin-maltose and sucrose, prepare in the proportion of 1 level measure of *Pelargon* to 1 oz. of water. This strength mixture, however, should only be used for those brief periods when temporary over-nutrition is prescribed.

Important: Correctly mixed according to the directions, *Pelargon* in liquid form is finely curdled in appearance and should not be confused with sour milk. *Warm* water only should be used for mixing, as lumps will form if the water is either too hot or too cold.



For Infant Feeding: When commencing with *Pelargon*, mix all the water with only half the amount of powder for the first few feeds, then gradually increase the amount of *Pelargon* until after the second day the feed is made with the full quantity recommended.

Although prepared primarily for the partial or complete artificial feeding of healthy babies from birth onwards, *Pelargon* is well adapted to the diet of premature infants, as well as for use in cases of vomiting and marasmus, skin disorders, dyspepsia, diarrhoea, etc.

For Feeding Tables and other Information write to: Nestlés Mothercraft Service, P.O. Box 8647, Johannesburg.

SURITAL: A NEW ANAESTHETIC

Parke Davis Laboratories (Pty.) Limited announce the introduction of *Surital* (thiamylal sodium)—an ultrashort-acting intravenous anaesthetic.

Description. *Surital* is the thio-analogue of the barbiturate secobarbital just as thio-pentone is the thio-analogue of pentobarbital. *Surital* is used both intravenously and rectally. The action is characterized by smooth, rapid induction, early recovery and few complications. Some workers[1-3] have found *Surital* to be more potent than thiopentone, with a shorter duration of action, and it would appear that the main advantage of intravenous *Surital* over thiopentone is the shorter recovery period, together with the greater hypnotic action.

Disadvantages of similar anaesthetic drugs in the past have been the hyperactivity of laryngopharyngeal reflexes and the excessive respiratory depression in the anaesthetic stage resulting from their use. It is, therefore, particularly significant that tendencies towards laryngospasm and depression of respiration appear minimal with *Surital*.[4-6]

Indications. *Surital* may be used both intravenously and rectally, either alone or in combination with general and local anaesthesia. As a secondary agent its usefulness has been demonstrated in assisting in the induction of general anaesthesia and in covering most types of regional analgesia. Because of the short duration of action and rapid recovery of consciousness, *Surital* has a place in the treatment of out-patients, and is useful for short operations in the operating theatre.

Dosage and Administration: (1) *Surital Intravenous*. Patients are prepared in the same way as for any general anaesthetic, with suitable premedication. *Surital* may be combined with any other anaesthetic or relaxant and the rate of injection is similar to that employed with thiopentone, the initial dose being on an average 300 to 350 mg.

(2) *Surital Rectal*. The patient should be prepared as for a general anaesthetic and the stomach should be empty. Atropine or hyoscine should be given as a premedication and in very nervous patients or those with a high metabolic rate it is advisable to administer Omnopon or pethidine as well.

The recommended dosage of *Surital Rectal* for pre-anaesthetic sedation is 1.33 g. per 100 lb. body weight, which is the equivalent of 0.266 c.c. of a 5% solution per lb. bodyweight.

The dosage for basal anaesthesia is 0.4 c.c. of a 5% solution per lb. body weight which is 2 g. per 100 lb. body weight.

Contra-Indications. Contra-indications to the use of *Surital* are those of any barbiturate. Rectal ad-

ministration in contra-indicated in patients with diseases of the rectum or loss of control of the anal sphincter.

Package Information. Surital Intravenous is supplied in ampoules of 0.5 g. and 1.0 g.; *Surital Rectal* is supplied in ampoules of 1.5 g.

Distributors. Lennon Limited. All Branches.

REFERENCES

1. Barlow, M. B. and Ginsberg, H. (1956): S. Afr. Med. J., **24**, 560.
2. Phillips, H. S. (1953): Anaesth. Analg., **32**, 56.
3. Stephen, C. R. and Martin, A. (1951): N. Carolina Med. J., **12**, 501.
4. Helrich, M., Papper, E. M. and Rovenstine, E. A. (1950): Anaesthiology, **11**, 33.
5. Clarke, M. T., Walton, C. H. and Bowersdorf, H. L. (1952): Anaesth. Anal., **31**, 73.
6. Helrich, M., Daly, J. F. and Rovenstine, E. A. (1950): Paediat., **6**, 25.

NUFER TABLETS (BRITISH DRUG HOUSES)

FOR HYPOCHROMIC ANAEMIA

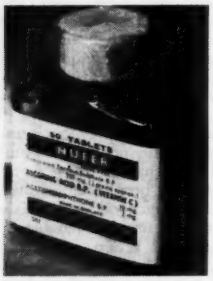
Each *Nufer* tablet contains:

Ferrous Sulphate, exsiccated, 200 mg. (3 grains approx.).

Ascorbic Acid, 10 mg.

Acetomenaphthone, 2 mg.

Nufer is indicated in the treatment of hypochromic anaemia. It is particularly indicated during pregnancy and lactation, and for the correction of anaemia associated with chronic debilitating diseases.



The outstanding feature of *Nufer* is that although it provides a most effective form of iron therapy, it does not give rise to gastro-intestinal disturbance. *Nufer* is, therefore, suitable for administration to children and adults who are unable to tolerate other preparations of iron by the oral route, or whose absorption of iron is inefficient or inadequate.

Dosage:

Children: 1 tablet 2 or 3 times a day.

Adults: 2 tablets 3 times a day.

Nufer is best taken during or immediately after meals.

Rationale: It was found during an investigation of the control of vomiting in pregnancy (Amer. J. Obstet. Gynec., 1952 (Aug.), **64**, 416) that iron given orally for anaemia in these patients, caused little or no gastro-intestinal disturbance when vitamins C and K were given. Vitamin C alone or vitamin K alone was not effective in preventing the gastro-intestinal disturbance caused by iron. It was further observed that the absorption of the iron was enhanced during the combined treatment.

The observations were confirmed by independent clinical trials in 12 teaching hospitals in Great Britain, and in view of these findings the product submitted to clinical trial is now issued under the name of *Nufer*.

In addition Gillhespy, as a result of an extensive clinical investigation, has stated that *Nufer* ' is the least toxic of all the iron preparations '. Twelve patients who could not tolerate other iron preparations did not suffer from any gastric disturbance when given *Nufer* over long periods. Improvement in the blood picture was satisfactory. (Med. Press, 1954 (Feb. 3), p. 112).

Mode of Issue of Nufer: Sugar coated tablets, in bottles of 50 and 500.

COVATIN

SEDATION WITHOUT HYPNOSIS

Description: *Covatin* is a new anti-anxiety drug with spasmolytic properties, promoting tranquillity and release from tension, without inducing sleep or dulling of alertness.

Formula: The chemical formula for *Covatin* is p-butylthiodiphenylmethyl - 2 - dimethylaminoethyl sulphide hydrochloride.

Action: *Covatin* has a sedative action which relieves tension, reduces nervousness and provides tranquillity without producing any tendency to drowsiness.

Covatin is remarkably free from side effects and no reports have been received of side effects necessitating discontinuation of the drug. *Covatin* is non-habit forming.

Indications: *Covatin* is indicated in all cases where sedation is required, such as nervousness, agitation, anxiety and minor neuroses. *Covatin* is also used with success in combination with analgesics in psychiatry, in cardio-vascular diseases and gastro-intestinal dysfunctions.

Contra-Indications: *Covatin* is contra-indicated in coma due to central nervous depressants such as alcohol, barbiturates or opiates, since *Covatin* exerts its sedative effect by depressing the central nervous system.

Dosage: The therapeutic dose of *Covatin* is one tablet 5 times daily, and it should be taken with food, if possible.

Presentation: Available as 50 mg. sugar-coated tablets in bottles of 100 and 500.

Manufacturers: Warner Pharmaceuticals (Pty.) Ltd., Manufacturing Chemists, 6-10 Searle Street, Cape Town.

NOTENSIL

A NEW MAJOR TRANQUILLIZER

Notensil is a new major tranquillizing agent, acetylpromazine, presented in the form of the maleate. Qualitatively similar in its action to chlorpromazine hydrochloride, it is roughly twice as potent, weight for weight, and appears not to be associated with any toxic effects—in particular, skin reactions, jaundice and agranulocytosis.

Pharmacology: *Notensil* has two principal modes of action:

(*a*) It exerts a depressant effect on the central nervous system;

(*b*) It is adrenolytic, acting in this way both on the midbrain and peripherally. In addition, it has less important antihistaminic, antispasmodic, and local anaesthetic properties. By virtue of the latter it potentiates the effect of curarising agents.

(*a*) *C.N.S. Depressant Action.* The depressant action of *Notensil*, centred on the reticular substance of the midbrain, allows the cortex to function normally though protected from hyperactivity of the midbrain. Somnolence is thus produced. This depressant action is supplemented by the adrenolytic effect.

It is by virtue of its depressant action that Notensil acts as an anticonvulsant and enhances the effects of hypnotics, analgesics and anaesthetics. *Notensil* also exerts a depressant effect on the various regulating centres of the medulla, thereby acting as an anti-emetic, and inducing hypothermia and hypotension. (The latter effects are also in part due to its peripheral adrenolytic action).

(*b*) *Peripheral Adrenolytic Action.* The peripheral adrenolytic action of *Notensil* lessens or suppresses physiological reactions normally resulting in hypertension, and reduces tachycardia of adrenergic origin.

Indications: *Notensil* is indicated in psychiatry:

(*a*) For the amelioration of psychotic behaviour (e.g. in mania, catatonic schizophrenia, confusion and delirium) and in some anxiety states. *Notensil* alone will in certain cases return behaviour to normal. If barbiturates or other sedatives are required, *Notensil* will permit a marked reduction in dosage.

(*b*) For the relief of insomnia arising from nervous tension. In cases such as these *Notensil* may be given alone or together with traditional sedatives.

(*c*) For the potentiation of the effect of the basic narcotics used in continuous narcosis.

(*d*) For the alleviation of distressing psychosomatic symptoms (e.g. in severe pruritus) and to help establish psychotherapeutic rapport.

(*e*) For the correction of withdrawal symptoms in cases of alcoholism and drug addiction.

Notensil is also of value for the relief of early morning vomiting in pregnancy, the relief of vomiting due to drugs, infections etc. and, in association with analgesics, for the relief of intractable pain.

Dosage: Dosage is variable but a total daily dosage of 150-200 mg. is envisaged for major psychoses, while a single dose of 10-30 mg. will be found to be suitable in the other conditions named.

Side Effects: Occasional tachycardia and mild postural hypotension are the only side effects so far observed.

Supply: Tablets of 10 mg. in bottles of 30 and 1,000. Tablets of 25 mg. in bottles of 100 and 1,000. A parenteral form of *Notensil* will be available shortly.

Notensil is manufactured by Benger Laboratories Limited and distributed by their associate company Fisons Chemicals (S.A.) (Pty.) Limited.

PREPARATE EN TOESTELLE

PELARGON (NESTLÉ)

VERSUURDE VOLROOM-POEIERMELK MET BYGEVOEGDE KOOLHIDRATE VIR DIE VOEDING VAN SUIGELINGE

Perlagon word voorberei van streng gekontroleerde melk, versuur met 0.5% melksuur, waarby 2% stysel en 5% suiker (dekstrien-maltose en sukrose) gevoeg is. Dit is gepasteuriseer, gehomogeniseer en dan drooggemaak volgens die spuitproses.

Pelargon is bakteriologies veilig, en die voorbereidingsproses bring heilsame veranderings teweeg in die kenmerke van die vet- en proteïen-bestanddele van die melk.

Pelargon help die suigeling om doeltreffender weerstand te bied teen infeksies, diarree, bloedarmoede en Engelse siekte.

Die suurheid van *Pelargon* en dit styselinhoud bied ook 'n verdere voordeel want dit voorsien die maag van fyn, vrygestelde stremsel. *Pelargon* is derhalwe maklik verteerbaar.

PERSENTASIESAMESTELLING (POEIER)

Vet	17.0%	Stysel (vooraf gekook)	8.5%
Proteïen	16.5%	Totale koolhidrate	57.0%
Laktose	23.5%	Melksuur	2.2%
Sukrose (bygevoeg)	12.5%	Mineraalsout ...	4.3%
Dekstrien - maltose (bygevoeg)	12.5%	Water	3.0%

'n Paar Voordele: Die vet word baie goed verdra weens die versuring.

Die fyn koagulasie van die proteïen word gehandhaaf deur die stysel (gedekstriniseer), en die kaseïen is geheel en al ontkalk.

Dit is anti-dispepties want die melksuur stuit die inwerking van skadelike bakterieë.

Daar is 'n verbeterde assimilasie van kalsium en yster.

Dit is vry van skadelike bakterieë en bied derhalwe maksimum-veiligheid terwyl dit die biologiese waarde van vars melk behou.

Gebruike: Vir vroegtydig gebore suigelinge; vir die gedeeltelike of volledige kunsmatige voeding van gesonde babetjies vanaf hul geboorte; in gevalle van braking en uittering, velongesteldhede, dispepsie, diarree, ens.

Let Wel: Om die gelyke van onverdunde koeimelk te verkry, met 5% bygevoegde dekstrien-maltose en sukrose, berei voor in die verhouding van 1 gelyk maatskeppie *Pelargon* op 1 ons water. 'n

Mengsel van hierdie sterkte moet egter net gebruik word vir dié kort tydperke wanneer tydelike oorvoeding voorgeskryf word.

Belangrik: As dit korrek volgens die voorskrifte aangemaak word, het *Pelargon* in vloeibare vorm die voorkoms van 'n fyn stremsel. Dit moet egter nie met suur melk verwar word nie. By die aanmaak moet slegs *warm* water gebruik word. As die water te koud of kokend is, sal klonte gevorm word.

Vir die voeding van suigelinge: As u met *Pelargon* begin, meng al die water met slegs die helfte van die poeier vir die eerste paar voedings. Vermeerder die hoeveelheid *Pelargon* dan geleidelik totdat die voeding na die tweede dag uit die volle, aanbevole hoeveelheid bestaan.

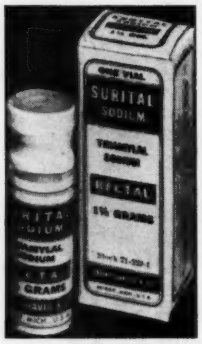
Hoewel dit in die eerste en vernaamste plaas voorberei word vir die gedeeltelike of algehele kunsmatige voeding van gesonde babetjies vanaf hul geboorte is *Pelargon* ook geskik vir die dieet van vroeggebore suigelinge, sowel as vir gebruik in gevalle van braking, uittering, velongesteldhede, dispepsie, diarree, ens.

Om Voedingstabelle en ander Inligting skryf aan: Nestlé se Moederkunde-Diens, Posbus 8647, Johannesburg.

SURITAL: 'N NUWE NARKOSE

Parke Davis Laboratories (Pty.) Limited kondig die beskikbaarstelling aan van *Surital* (tiamilalnatrium) —'n ultra-kortwerkende binne-aarse narkose.

Beskrywing. *Surital* is die tio-analoog van die barbituraat sekobarbitaal, net soos tiopentoon die tio-analoog van pentobarbitaal is. *Surital* kan sowel binne-aars as rektaal toegedien word. Die effek word gekenmerk deur ongestoorde, vinnige induksie, vroeë herstel en min komplikasies. Sommige navorsers[1-3] het bevind dat *Surital* kragtiger as tiopentoon is, en 'n korter voortduring van aksie het. Dit skyn asof die vernaamste voordele van binne-aarse *Surital* in vergelyking met tiopentoon die korter hersteltydperk en die groter hipnotiese effek is.



Die nadele van dergelike narkotiese middels in die verlede was die hiperbedrywigheid van die laringo-keel-reflekse en die buitensporige asemhalingsdepressie tydens die verdowingstadium wat op die gebruik van hierdie middels gevolg het. Dit is derhalwe van die allergrootste belang dat die neiging tot strottehoofskramp en depressie van die asemhaling in die geval van *Surital* minimaal skyn te wees.[4-6]

Indikasies. *Surital* kan sowel binne-aars as rektaal toegedien word, òf alleen òf in verbinding met 'n algemene of plaaslike verdowingsmiddel. As 'n sekondêre middel is die nuttigheid daarvan bewys by die induksie van algemene narkose, en die dekking van die meeste gevalle van streekanalgesie. Weens die voortduring van die aksie en die vinnige herwinning van die bewussyn verdien *Surital* 'n plek in die behandeling van buitepasiënte; dis ook nuttig vir kort operasies in die operasiesaal.

Dosis en Toediening: (1) *Surital, Binne-Aars*. Pasiënte word voorberei op dieselfde manier as vir 'n algemene verdowingsmiddel, met die vooraf toediening van geskikte medisyne. *Surital* kan verenig word met enige ander verdowingsmiddel of ontspanningsmiddel, en die hoeveelheid wat ingespuit word, is soortgelyk aan die hoeveelheid tiopentoon wat toegedien word. Die aanvanklike dosis is gemiddeld 300 tot 350 mg.

(2) *Surital, Rektaal*. Die pasiënt word voorberei soos vir 'n algemene verdowingsmiddel, en die maag moet leeg wees. Atropien of hiossien behoort toegedien te word as 'n voorafgaande medisyne, en in die geval van besonder senuweeagtige pasiënte, of pasiënte met 'n hoë metabolisme is dit raadsaam om ook Omnopon of petidien toe te dien.

Die aanbevole dosis *Surital, Rektaal*, vir voorverdowingskalmering is 1.33 g. per 100 pond liggaamsgewig. Dit staan gelyk aan 0.266 k.s. van 'n 5% oplossing per pond liggaamsgewig.

Die dosis vir basale narkose is 0.4 k.s. van 'n 5% oplossing per pond liggaamsgewig, d.w.s. 2 g. per 100 pond liggaamsgewig.

Kontra-indikasies. Kontraindikasies vir die gebruik van *Surital* is dié wat in die geval van enige barbituraat van toepassing is. Rektale toediening word nie aanbeveel nie in die geval van pasiënte wat ly aan 'n kwaal van die rektum, of wat beheer oor die anussluitspier verloor het.

Inligting oor Verpakking. *Surital, Binne-aars* word verskaf in ampulle van 0.5 g. en 1.0 g.; *Surital, Rektaal* is verkrygbaar in ampulle van 1.5 g.

Verspreiders. Lennon Bpk. Alle takke.

VERWYSINGS

1. Barlow, M. B. en Ginsberg, H. (1956): S.-Afr. Tydsk. Geneesk., **24**, 560.
2. Phillips, H. S. (1953): Anaesth. Analg., **32**, 56.
3. Stephen, C. R. en Martin, A. (1951): N. Carolina Med. J., **12**, 501.
4. Helrich, M., Papper, E. M. en Rovenstine, E. A. (1950): Anaesthiology, **11**, 33.
5. Clarke, M. T., Walton, C. H. en Bowersdorf, H. L. (1952): Anaesth. Anal., **31**, 73.
6. Helrich, M., Daly, J. F. en Rovenstine, E. A. (1950): Paediat., **6**, 25.

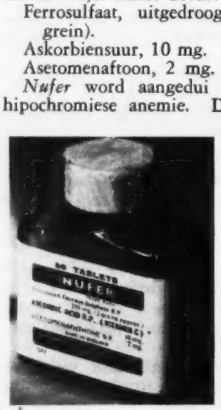
NUFER-TABLETTE (BRITISH DRUG HOUSES)

VIR HIPOCHROMIESE ANEMIE

Iedere *Nufer*-tablet bevat:

Ferrosulfaat, uitgedroog 200 mg. (ongeveer 3 grein).
Askorbiensuur, 10 mg.
Asetomenaftoon, 2 mg.

Nufer word aangedui vir die behandeling van hipochromiese anemie. Dit is veral nuttig tydens swangerskap en laktasie, en vir die behandeling van die anemie wat geassosieer word met kroniese, verswakkende siektes.



Een van die opvallendste kenmerke van *Nufer* is dat hoewel dit 'n uiters doeltreffende vorm van terapie is, dit nie aanleiding gee tot versteurings in die spysverteringskanaal nie. *Nufer* kan derhalwe

met welslae voorgeskryf word vir kinders en volwassenes wat nie die ander mondelinge ysterpreparate kan verdra nie, of wie se yster-absorpsie ondoelmatig of ondoeltreffend is.

Dosis:

Kinders: 1 tablet 2 tot 3 maal per dag.

Volwassenes: 2 tablette 3 maal per dag.

Die beste tyd om *Nufer* te neem is gedurende of onmiddellik na maal tye.

Beredeneerde Uiteensetting: Met 'n ondersoek van die beheer oor braking tydens swangerskap (Amer. J. Obstet. Gynec., 1952 (Aug.), **64**, 416) is daar bevind dat as yster vir anemie mondeling aan hierdie pasiënte gegee word, dit min of glad geen spysverteringsmoeilikhede veroorsaak nie mits dit saam met vitamiene C en K toegedien word. Vitamien C alleen of vitamien K alleen was egter nie doeltreffend vir die voorkoming van die spysverteringskwale wat deur yster veroorsaak word nie. Daar is verder waargeneem dat die absorpsie van yster verbeter is tydens die gesamentlike behandeling.

Hierdie waarnemings is bevestig deur onafhanklike proefnemings by 12 onderrighospitale in Brittanje, en met die oog op hierdie bevindings word die produk wat aan kliniese toetse onderwerp is, nou beskikbaar gestel onder die naam *Nufer*.

Daarbenewens het Gillhespy, na uitgebreide kliniese ondersoek, aangekondig dat *Nufer* ‚minder giftig as enigeen van die ander ysterpreparate is.' Twaalf pasiënte wat nie ander ysterpreparate kon verdra nie, het geen spysverteringskwale geopenbaar nadat hulle oor lang tydperke met *Nufer* behandel is nie. Die verbetering van die bloedbeeld was bevredigend (Med. Press, 1954 (3 Feb.), bl. 112).

Manier waarop Nufer Beskikbaar Gestel word: Versuikerde tablette, in bottels van 50 en 500.

COVATIN

KALMERING SONDER HIPNOSE

Beskrywing: *Covatin* is 'n nuwe middel vir die bestryding van besorgdheid. Dit het krampwerende eienskappe, werk gemoedsrus in die hand, en bring 'n vermindering van spanning mee sonder om die pasiënt lomerig te maak of sy wakkerheid van gees in enige opsig aan te tas.

Formule: Die chemiese formule vir *Covatin* is p-butieltiodifenielmetiel - 2 - diemtielamine - etiel-sulfied - hidrochloried.

Effek: *Covatin* het 'n kalmerende effek wat spanning verlig, senuweeagtigheid verminder en gemoedsrus teweegbring sonder om enige lomerigheid te veroorsaak.

Covatin is merkwaardig vry van bykomstige effekte, en geen berigte is ontvang oor bykomstige effekte wat so ernstig was dat behandeling met die middel gestaak moes word nie. *Covatin* skep ook nie 'n gewoonte nie.

Indikasies: *Covatin* word aangedui in alle gevalle waar kalmering noodsaaklik is—byvoorbeeld senuweeagtigheid, opgewondenheid, besorgdheid en minder belangrike neuroses. *Covatin* kan ook met welslae saam met pynstillende middels gebruik word in psigiatrie, en in gevalle van kardio-vaskulêre kwale en spysverteringsdisfunksie.

Kontra-indikasies: Daar is kontra-indikasies vir die gebruik van *Covatin* in gevalle van koma wat veroorsaak is deur depressante van die sentrale senuweestelsel soos alkohol, die barbiturate of die opiate, want *Covatin* oefen sy kalmerende effek uit deur die sentrale senuweestelsel ter neer te druk.

Dosis: Die terapeutiese dosis *Covatin* is een tablet 5 maal per dag. Indien moontlik moet dit saam met voedsel geneem word.

Aanbieding: Verkrygbaar as versuikerde tablette van 50 mg., in bottels van 100 en 500.

Fabrikante: Warner Pharmaceuticals (Pty.) Ltd., Vervaardigingskeikundiges, Searlestraat 6-10, Kaapstad.

NOTENSIL

'N NUWE BELANGRIKE KALMEERMIDDEL

Notensil is 'n nuwe belangrike kalmeermiddel, asetielpromasien, aangebied in die vorm van 'n maleaat. Kwalitatief het dit dieselfde uitwerking as chloorpromasienhidrochloried, maar, gewig vir gewig, is dit ongeveer twee keer sterker, en dit skyn nie asof dit enige toksiese effekte—in besonder velreaksies, geelsug en agranulositose—het nie.

Farmakologie: *Notensil* gaan veral op twee maniere te werk:

(*a*) Dit het 'n stillende uitwerking op die sentrale senuweestelsel;

(*b*) dit is adrenolities, en as sulks oefen dit 'n effek uit sowel op die middelbrein as perifer. Daarbenewens het dit ook minder belangrike antihistamien-, krampwerende en plaaslike narkotiese eienskappe. Uit hoofde van laasgenoemde versterk dit die effek van kurariserende middels.

(*a*) *Sentrale Senuweestelsel*: *Stillende Effek*. Die stillende effek van *Notensil*, gesentreer op die netvormige stof van die middelbrein, stel die cortex in staat om normaalweg te funksioneer hoewel dit teen oorbedrywigheid van die middelbrein beskerm is. Slaperigheid word dus teweeggebring. Hierdie stillende uitwerking word aangevul deur die adrenolitiese effek.

Dit is uit hoofde van *Notensil* se stillende effek dat dit as 'n antispierkrampmiddel werk, en die effek van slaapmiddels, pynverdowingsmiddels en verdowingsmiddels verhoog. *Notensil* het ook 'n kalmerende effek op die verskillende reguleersentrums van die medulla, en tree derhalwe op as 'n brakingsbestrydingsmiddel. Dit het ook hipotermie en hipotensie tot gevolg. (Laasgenoemde effekte moet gedeeltelik toegeskryf word aan die perifere adrenolitiese uitwerking).

(*b*) *Perifere Adrenolitiese Effek*. Die perifere adrenolitiese effek van *Notensil* verminder of onderdruk die fisiologiese reaksies wat normaalweg op hipotensie uitloop, en verminder hartversnelling van 'n adrenergiese oorsprong.

Indikasies: In psigiatrie word *Notensil* aangedui:

(*a*) Vir die verligting van psigotiese gedrag (bv. in gevalle van manie, katatoniese schisofrenie, geestesverwarring en ylhoofdigheid), asook in sommige besorgdheidstoestande.

In sekere gevalle is *Notensil* alleen voldoende om die gedrag na normaal te laat terugkeer. As

barbiturate of ander kalmeermiddels nodig is, sal die gebruik van *Notensil* die geneesheer in staat stel om heelwat kleiner hoeveelhede voor te skryf.

(*b*) Vir die verligting van slaaploosheid voortspruitende uit senuspanning. In sulke gevalle kan *Notensil* alleen, of saam met die tradisionele stilmiddels voorgeskryf word.

(*c*) Vir die versterking van die effek van die basiese verdowingsmiddels wat vir ononderbroke narkose gebruik word.

(*d*) Vir die verligting van ontstellende psigosomatiese simptome (bv. by ernstige pruritus), en om te help met die herstel van die psigoterapeutiese verband.

(*e*) Vir die verbetering van onttrekkingsimptome in gevalle van alkoholisme en verslaafdheid aan verdowingsmiddels.

Notensil is ook van waarde vir die verligting van oggendbraking tydens swangerskap, die verligting van braking ten gevolge van verdowingsmiddels, infeksies, ens. en, in medewerking met pynstillende middels, vir die verligting van hardnekkige pyn.

Dosis: Die dosisse verskil, maar 'n totale daaglikse dosis van 150-200 mg. word aanbeveel vir belangrike psigoses, terwyl 'n enkele dosis van 10-30 mg. geskik bevind sal word vir die ander toestande wat hierbo genoem is.

Bykomstige Effekte: Hartversnelling af en toe, en geringe postuurhipotensie is die enigste bykomstige effekte wat tot dusver waargeneem is.

Verskaffing: Tablette van 10 mg. in bottels van 30 en 1,000. Tablette van 25 mg. in bottels van 100 en 1,000. 'n Parenterale vorm van *Notensil* sal binnekort beskikbaar gestel word.

Notensil word vervaardig deur Benger Laboratories Limited en versprei deur hul filiaalmaatskappy Fisons Chemicals (S.A.) (Pty.) Limited.

CORRESPONDENCE

INTRAVENOUS ADMINISTRATION VIA POLYTHENE CANNULAE

To the Editor: In reply to Dr. M. Shapiro's letter in your issue of 2 March 1957, I would like to correct his assumption that I have made a 'claim'.

The object of my report on administering intravenous fluids, using polythene cannulae via the 'push-in' method (your issue of 5 January 1957, p. 11) was to *describe and discuss* a method, not to make personal claims. If he wishes to know how I came across the method, he may refer to Dr. B. van Lingen, who first demonstrated it to me while I was his houseman at the Princess Nursing Home in 1955. To the best of my knowledge it was then not a 'well-known' method, certainly not as far as *local* housemen or the average general practitioner was concerned—those for whom this paper was written.

I was so impressed by its possibilities that I determined to try it out for myself as a routine for all 'drips'. I soon discovered that, in certain cases, it had very definite advantages and caused far less trouble to patient and doctor than the usual intravenous methods. However, as with all new methods, there are certain advantages and disadvantages, indications and contra-indications and last but not least, a basic routine which has to become efficiently stream-lined and cut to a minimum before it is really time saving. If Dr. Shapiro had all this in hand 'for the past 7 or 8 years', either he did not consider it as advantageous and useful a technique as I do or, if he did, it is unfortunate that it was left to so inexperienced a hand to write it in assimilable form for local use.

As to his disdain of *cardiac catheter connexions* (also to which I make no prior claim of being 'new') I have found that, *if used properly*, they are very convenient and safe, since rubber pressed against polythene is less likely to slip than polythene pressed against smooth stainless steel. Admittedly they are expensive, but they will give long service if well looked after. Only the internal rubber gaskets need replacing, and they are cheap. They have the additional advantage that, if intermittent infusions are required, they act as clamps if tightened up excessively. When the 'drip' is restarted, the squashed portion of tubing is cut off and the remaining tube reconnected as before.

I have used needles as connexions, pushing the polythene cannula over the shaft after first heating the polythene and then shrinking it on to the needle, as Dr. Shapiro describes. However, this is more suitable for the 'cut-down', not the 'push-in' method, as it is somewhat awkward to put the cannula into hot water once it is in the vein. It obviously cannot be done beforehand, since it has to be passed through the special needle.

C. C. Didcott.

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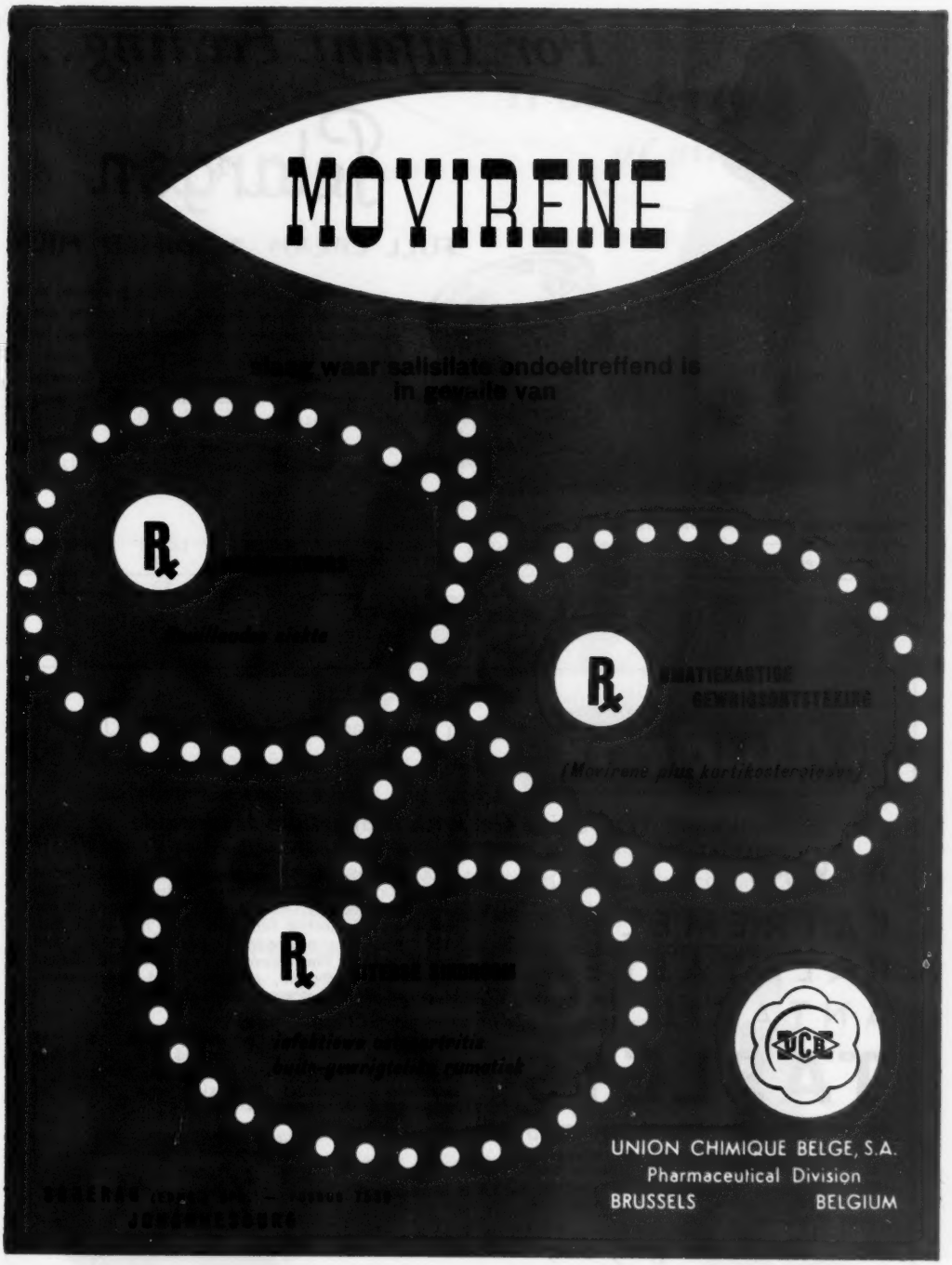
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